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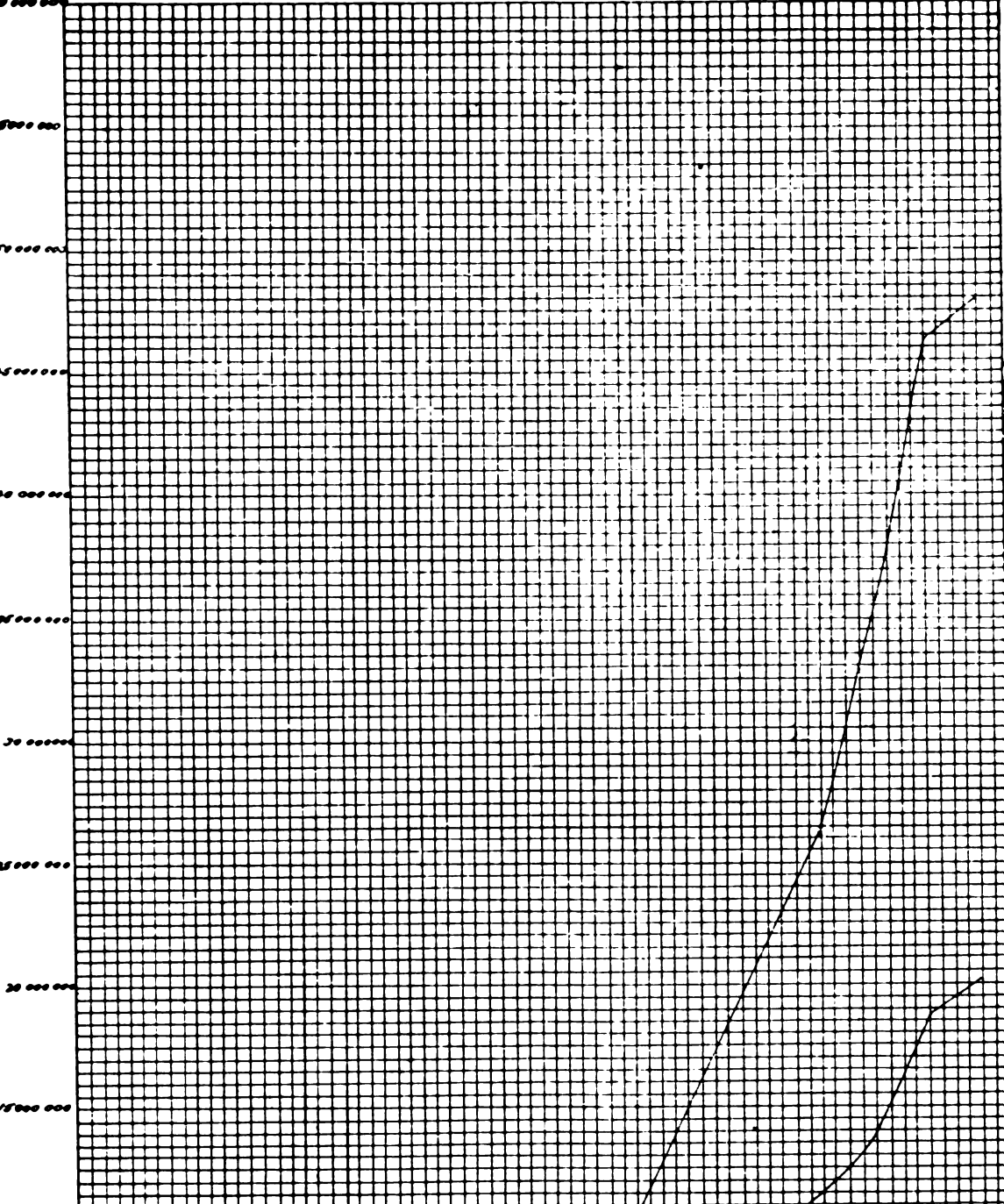
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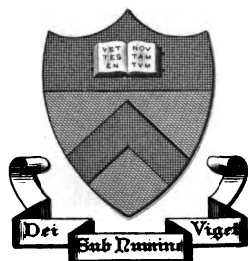


Annual Report of the Secretary of Internal Affairs of the ...

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ANNUAL REPORT
OF THE
SECRETARY OF INTERNAL AFFAIRS

OF THE
COMMONWEALTH OF PENNSYLVANIA.

PART III.

INDUSTRIAL STATISTICS.

VOLUME XXXV.

1907.

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HARRISBURG PUBLISHING CO., STATE PRINTER.
1908.

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REPORT
OF THE
BUREAU OF INDUSTRIAL STATISTICS.

COMMUNICATION.

Department of Internal Affairs,

Harrisburg, Pa., August 15, 1908.

To His Excellency, Edwin S. Stuart, Governor of the Commonwealth:

Sir: In compliance with the requirements of the Constitution, I have the honor to submit herewith, for transmission to the General Assembly, the thirty-fifth annual report of the Bureau of Industrial Statistics, the same being Part III of the reports of this Department.

I am, very respectfully

Your obedient servant,

HENRY HOUCK,
Secretary of Internal Affairs.



LETTER OF TRANSMITTAL.

Harrisburg, Pa., August 15, 1908.

Hon. Henry Houck, Secretary of Internal Affairs:

Sir: In compliance with the duties of my office, I transmit herewith the thirty-fifth annual report of the Bureau of Industrial Statistics of your Department.

This report for the year ending January 1, 1908, contains the usual interesting data and statistics pertaining to iron, steel, tin plate, coal, coke, etc.—industries which have made our State incomparably great—but many other interests have been so carefully considered that their presentment merits attention. I have also ventured to depart from usual custom with a view of extending the scope of the Bureau, and have presented some new features of information and usefulness, which I hope will be approved by you.

I wish to call especial attention to the suggested reforms and improvements demanded by present-day conditions and bespeak your influence and aid to promptly secure them for the benefit of the citizenship needing them.

Very respectfully yours,

JOHN L. ROCKEY,
Chief of Bureau.

NOTE OF ACKNOWLEDGMENT.

In the preparation of this report helpful service was given by thousands of business men of our Commonwealth, and not a single request for statistics or information was utterly disregarded. Almost every one gave that quick and full response which befits those having at heart the interests of the State and willingness to still further advance them. Grateful appreciation of those services is here expressed and unqualified assurance given that our every future effort, augmented by such patriotic assistance, will be devoted to the promotion of the mutual interests of the State and its citizens.

J. L. R.

PART ONE.

**RECOMMENDATIONS AND SPECIAL
ARTICLES.**

IN RELATION TO LABOR.

The Act of May 11, 1874, creating the Bureau of Industrial Statistics imposed the duty of careful and "impartial inquiry into the relations of capital and labor, in their bearings upon the social, educational and industrial welfare of all classes of working people, and to offer practical suggestions for the improvement of the same." The law also obligated the Bureau "to collect, compile and publish such statistics in regard to the wages of labor and the social conditions of the laboring classes as may enable the people of the State to judge how far legislation can be invoked to correct existing evils." These provisions have been well executed in some particulars, but seem to have been neglected in other respects, or to have been inadequate in their application to some features of the industrial life of the State. Some of these neglected factors now demand most earnest consideration.

A conscientious purpose of this Bureau will be to perform such offices for and to secure such action in these neglected spheres as will, it is hoped, very materially improve the general welfare of the State. To properly accomplish these objects an earnest endeavor will be made to regard every phase of occupation as being upon a common plane, and to treat each one with the utmost impartiality. This is in accordance with the belief that the conservation of the rights of every class of citizens will assure the greatest measure of contentment and consequent prosperity and happiness of the entire citizenship. When it will be fully understood, and so acknowledged by word and action, that every element of our people is receiving its proper rights and privileges it will not be difficult to impress all the elements with their sense of duty and obligation or to ask and expect from all a cheerful acquiescence to proper demands for the performance of the duties due the State. The existence of such conditions would easily make it possible to protect and advance the mutual interests of capital and labor, and to permanently maintain the industrial peace of our Commonwealth.

It is most gratifying to here make record of the fact that during the past year the business relations of employers and employes of this State have been more satisfactory than in many other like periods of time. Considering the very large number of people employed in our varied industries, and the diverse thought of these masses, the relations have been mainly harmonious and for the best interests of each class. This excellent state of affairs gives hope-

ful promise for a contented future. As each class will more fully understand its proper relationship, its actions will give evidence of better attitude, thus inducing still more cordial relations, lessening, if not wholly preventing, industrial friction or strife. Capital and labor are rapidly beginning to understand how much better it is when they fully recognize their mutual dependence upon each other, and how foolish it is to encourage contention which is never a resultant of permanent benefit.

Unbiased observation has produced the belief that the majority of employers of this State are actuated by a sincere purpose to treat their employes justly and properly. So, too, there is unmistakable evidence of the friendly attitude of labor. Each appears willing to strive for the advancement of mutual interests. And there is now, in many industries, scarcely any point of difference except the matter of wages, which matter can usually be satisfactorily arranged if both parties will avoid excited disputations and frankly consider their affairs, with a view of peaceful settlement.

A strict regard for and the observance of the rights of others, whether pertaining to property or to manhood, will permit suggestions of agreements which can be accepted readily by all, no matter what may be the agencies of settlement. And whether there be union of labor, or proper combination of capital to advance and maintain respective interests, neither should forget, if occasion for such action should arise, that, very often the most helpful act that each can perform is to make such reasonable concessions as would prevent loss of time or the production of property, upon whose value both so largely depend. Every means should be used to prevent an industrial disturbance, and it should be remembered that whoever assumes that such disturbances can be created and continued without regard to the general interests of the public lacks in patriotic feeling and the best qualities of good citizenship. Whoever has the power to prevent such conditions and fails to properly act, persistently holding to possible preconceived views, against later and more deliberate judgment or just demands, is not a true American citizen and may even deserve to be called a public malefactor.

Strikes and lockouts should be avoided as curses of evil and as relics of an unenlightened age. The usual results of both and their attendant effects are of so little benefit or permanent advantage to either of the contending parties that there is no justifiable reason for their occurrence. Like the internal wars of nations, sorest of evils, come, if come they must, so that they may quickly lead to peace, which at its worst is better than the best of wars.

The ultimate end of all good government is to give to every constituent the exact measure of privilege and justice to which he is

entitled by the fundamental or constitutional forms of his state or nation. Therefore it is essential that the interests of every class of people should be given exact attention. If citizenship has massed itself into an aggregated body for the betterment of its conditions, it is equally proper that the collective mass be given the same just consideration. Accordingly this Bureau has endeavored to place itself upon as friendly relations toward organized labor as it has ever manifested for the welfare of those employing labor, either as individuals or as corporations.

Hearty appreciation of this purpose has been shown by organized labor, and it is confidently hoped that in the future the Bureau will have as complete and generous co-operation from those sources as are now so unstintingly given by corporations and other employers. The Pennsylvania branch of the American Federation of Labor has already pledged itself to such action. At its last annual meeting it adopted the following resolution without dissent:

"Resolved, That it is the sense of this Convention that all affiliated unions should co-operate with the State Bureau of Industrial Statistics in the collection of accurate data concerning labor conditions in Pennsylvania."

In line with that purpose the Bureau has also received the following statement from the president of the State Federation:*

"In a great industrial state like Pennsylvania, with its many varied and important industries, and its millions of population, it is not unexpected to find a great diversity of opinion concerning the relations that should exist between employer and employe. And, notwithstanding the fact that we have evolved from the spinning wheel of our grandmothers, to the high tension power loom, propelled by electricity; from the sickle to the self-binding harvester; from the slow sailing vessel to the modern steamship, crossing the Atlantic in five days; from canal boat transportation to the electric locomotive; and from the pony express to wireless telegraphy and flying machines, we still find those who blindly adhere to the antiquated doctrines of political economy, which taught that the rate of wages can not be regulated by any system of bargaining, but necessarily depends on the size of the bank account and generosity of the employer.

"The fallacy of this doctrine has been so amply demonstrated by the enforcement of a system of collective bargaining by the trade unions, that those who still preach the wage fund doctrine have come to be regarded as economic monstrosities.

"Reckless financeering, such as precipitated the financial panic in October, 1907, and the subsequent industrial depression from which we have not yet recovered, have caused employment to be

*E. E. Greenawalt, Lancaster, Pa.

somewhat unsteady, in Pennsylvania as elsewhere, yet withal, thanks to the intelligent foresight of the working people in banding themselves together in trade unions, and through this means maintaining the standard of wages, the same degree of impoverishment has not resulted in this panic as has been the case heretofore during industrial depressions.

"Authentic reports from thirty industrial centres in Pennsylvania show conclusively that conditions have materially improved for thousands of our working people during the year 1907, and that the improvement noted has been due largely to the potent agency of trade unionism.

"Some progress has also been made in the way of legislation. The most important of recent enactments being the Employers' Liability Law passed by the Legislature in 1907, which certainly was a wise and timely provision for the protection of those engaged in dangerous employments.

"And in this connection it may be said that organized labor of Pennsylvania is in hearty accord with the movement inaugurated to establish State Employment Agencies by the Bureau of Industrial Statistics, and will be found ready to urge upon the legislature the passage of a law authorizing such agencies. To have the Chief of the Bureau take the initiative in a movement of this kind is a commendable departure and should have the undivided support of all who are interested in up-to-date methods of administration."

The views of other members of organized labor and the opinion of officials connected with those industries are given in connection with the statistical matter of the several interests treated in this volume.

THE UNEMPLOYED.

During the past decade our State has enjoyed a prosperity which has been so varied and far-reaching that it was but little short of being marvelous. Every occupation was fully carried on and some were taxed to their extreme limit in the production of goods which found ready sale at home and abroad. Consequently every kind of labor found steady and, in most cases, profitable employment. No agencies of any nature whatever were needed to assist even the most timid or inexperienced working people. Natives and aliens alike found the means of livelihood in almost every community of the State. In many instances large numbers of the latter were urged to come from foreign shores to fill the demand for help and help swell the daily product. Under such conditions the unem-

ployed were so few that no especial attention was needed by them. Every community had within itself the means to give them proper care, and the State as a whole had a more contented mass of people than is usually found in such a large cosmopolitan population.

Within the current year new conditions have arisen which seem to impose new and greater obligations. Indeed they are so impressively urgent that they cannot be ignored or be lightly put aside. Universal trade depression, affecting especially the mining and the manufacturing interests of the State, have halted production, lessened the employment of labor and caused want and distress where before there was plenty and happiness. Partial adjustment of these unexpected conditions have been made, although slowly and even painfully. Thousands of the more thrifty aliens have returned to their nativity, somewhat relieving the over-supplied and congested centers to which these hosts had been attracted, but enough unemployed labor remains to give a most serious aspect to the situation. From many quarters come pitiful appeals, not for the offerings of charity, but for opportunity to earn a livelihood in which honor and self-respect can be maintained.

It is the belief of many economists that idleness is a crime, but when idleness arises from enforced conditions those suffering from those causes should have our sincere commiseration and all the possible aid within our power to give. But, worst of all, protracted idleness, no matter what the cause, readily leads to viciousness, which is the gateway to crime and its attendant evils. Many a well-intentioned man has been debased by idleness and his value as a citizen has been forever lost; others of less noble purposes, in consequence of not being employed have sunk into depths of degradation, which may leave their future as hopeless as a moral death.

Clearly the State has a stern duty thrust upon it by these conditions, and the question at once arises whether it were not better to attempt to ameliorate them by helpful means of encouragement than to be compelled ultimately to assume charge after these unfortunates have become pauperized or drifted into criminal life. It is not recommended that the State should provide labor, with its compensating features—although no poor purpose would be served if, in the stress of such times, the Commonwealth should employ as many as possible upon the building of great roadways, which would forever remain for the use and benefit of those who are able to pay for them and be the pride of the State as well, more glorious and beneficial than the grandest monuments which it could erect—but it may be very proper to consider other means which might bring with them some measure of relief. It might be well to adopt the plan of bringing together in official and trustworthy relations the unemployed and those needing the service of labor, thus helping

dependent citizenship to help itself, and many of our sister states have demonstrated most successfully the utility of such measures in connection with the work of bureaus already established. They find that every year many thousands are aided by these agencies and that the entire influence is wholesome and corrective of many evils. The work of these offices prevents debasement of self respect, leaves no taint upon any worthy attribute of manhood or womanhood, and is not a burdensome tax upon the State. In no instances have the undertakings been abandoned.

Our Bureau of Industrial Statistics, as at present constituted, is able to assume the direction of this work, and thoroughly believing in the need and practicability of such a measure, it respectfully asks for authority and enough means to be permitted to give the plan at least an experimental test. It is firmly convinced that the idea is a most worthy one, on the lines of modern thought and practice, and that, if judiciously carried out, it can be made to be most helpful to the unemployed of the State, and promotive of the best interests of the Commonwealth.

POPULATION—OFFICIAL AND ESTIMATED.

There has been a steady increase of population in the State since the last National Census of 1900, when the whole number of inhabitants was 6,302,115. Since that time no interdecennial census has been taken, but semi-official estimates by the same bureau seem to indicate that there were, in June, 1906, about 6,907,635 inhabitants, or an increase of nearly one hundred thousand per year since the last census.

In regard to sex, the population was quite evenly divided, there being about one hundred thousand more males than females, differing in that respect from the contiguous states of Maryland, New Jersey and New York, whose female population is greater than their male population.

Nearly one-sixth of the population was of foreign birth, and approximately 160,000 were negroes. That element in Pennsylvania was greater by more than 50,000 than in any other former free state; and there were here only about 80,000 less negroes than in Maryland. Other people of color were Japanese, less than fifty, and nearly 2,000 Chinese.

The population of the State, as reported in 1900, was housed in 1,236,238 dwellings, and constituted 1,320,025 families. Since the days of William Penn this has been pre-eminently a Commonwealth

of private homes. In 1900 there were 200,000 more such homes than in New York, whose families exceeded those of Pennsylvania to the number of 314,498. About two-thirds of the homes were owned free of debt and that proportion, too, was in handsome contrast with the showing of other large states.

The rural population of Pennsylvania was estimated at 2,349,000, and in point of number the State ranked second in the Union, Texas leading it in that respect. This population constituted 510,000 families, of which number 286,400 families actually lived on farms. The remaining 223,600 families, classed as rural, although not living on farms, did not have their abode in towns, but were scattered among rural surroundings. One-sixth of the farm population lived on tenant farms; the other five-sixths occupied their farms as proprietors.

In this State as in others of the eastern section of the Union the population of towns and cities increased in greater ratio than in rural sections. Reduced to percentages the increase in the entire State was at the rate of 8.3 per cent.; while the increase of urban population in places having more than 8,000 inhabitants each was about 13 per cent.

The appended table affords an interesting study of that fact and permits other comparisons. In the first column of the fifty-four places listed is given the official population in June, 1900; the next column gives an estimated population in June, 1906, and embraces nearly one-half the population of the State:

Philadelphia-C.,*	1,293,697		1,441,735
Pittsburgh-C.,	321,616	375,082	
Allegheny-C.,	129,896	145,240	
		<hr/>	520,322
Scranton-C.,	102,026		118,692
Allentown-C.,	35,416		41,595
Altoona-C.,	38,973		47,910
Beaver Falls-B.,*	10,054		10,246
Braddock-B.,	15,654		19,218
Bradford-C.,	15,029		16,577
Butler-B.,	10,853		12,125
Carbondale-C.,	12,536		14,976
Carlisle-B.,	9,626		10,832
Chambersburg-B.,	8,864		9,658
Chester-C.,	33,988		38,002
Columbia-B.,	12,316		13,423
Danville-B.,	8,042		8,066
Dubois-B.,	9,375		11,313
Dunmore-B.,	12,583		15,145

Duquesne-B.,	9,036	11,634
Easton-C.,	25,238	28,217
Erie-C.,	52,733	59,993
Harrisburg-C.,	50,167	55,735
Hazleton-C.,	14,230	15,771
Homestead-B.,	12,554	15,486
Johnstown-C.,	35,936	43,250
Lancaster-C.,	41,459	47,129
Lebanon-C.,	17,628	19,404
McKeesport-C.,	34,227	43,438
Mahanoy City-B.,	13,504	14,836
Meadville-C.,	10,291	11,769
Mt. Carmel-B.,	13,179	16,137
Nanticoke-B.,	12,116	13,358
New Castle-C.,	28,339	36,847
Norristown-B.,	22,265	23,747
Oil City-C.,	13,264	14,662
Phoenixville-B.,	9,186	9,604
Pittston-C.,	12,256	13,906
Plymouth-B.,	13,649	16,235
Pottstown-B.,	13,696	13,942
Pottsville-B.,	15,710	16,664
Reading-C.,	78,961	91,141
Shamokin-B.,	18,202	20,482
Sharon-B.,	8,916	11,909
Shenandoah-B.,	20,321	22,949
South Bethlehem-B.,	13,241	15,005
Steelton-B.,	12,086	13,911
Sunbury-B.,	9,810	10,986
Titusville-C.,	8,244	8,346
Warren-B.,	8,043	10,647
West Chester-B.,	9,524	10,424
Wilkes-Barre-C.,	51,721	60,121
Wilkesburg-B.,	11,886	16,949
Williamsport-C.,	28,757	29,735
York-C.,	33,708	39,168
<hr/>		
Total,	2,864,637	3,253,354

The population of some or these cities and boroughs has been materially increased since 1900 by the annexation of adjoining territory. About 12,000 acres were so added prior to 1907.

The cities which annexed about 1,000 acres each were Bradford, Chester, Easton, Johnstown, New Castle, Pittsburgh and York.

*Places marked "C" are cities "B" boroughs.

Those annexing 300 or more acres were Altoona, Carbondale, Harrisburg, Scranton, Sharon, Steelton, Sunbury. And smaller areas were added by Allegheny, Allentown, Mt. Carmel and Wilkesburg.

In the matter of the voting population in 1900, Pennsylvania had 51,668 negro voters, or about 20,000 more than in any of the three former free states of New York, Ohio and Illinois. Each of these had approximately 30,000 negroes of voting age. Comparitively Pennsylvania had within 9,000 as many negro voters as Maryland, and about one-fourth as many as were in Mississippi or Georgia.

PRICES AND COST OF LIVING.

No subject connected with industrial life has been the theme of greater controversy or is a more prolific source for future investigation than that of prices and the cost of living.

In the absence of a uniform system of statistics upon those subjects, various methods have been used to obtain the desired data, and there have been, of course, many consequent misleading results. Frequently local influences have modified the general line of prices and costs, preventing a proper interpretation of them, if used as presented. The need of a system which will serve for both state and nation has also become very obvious, and it is gratifying to note that such plans are now being formulated for the use of the various state bureaus, so that future statistics will be alike impressive and effective. For these reasons investigations have been deferred by this Bureau until such uniformity will be made possible of use, probably next year.

The state, however, through the medium of a special commission, made certain investigations early in 1907, to ascertain what was the true condition of affairs in the Pittsburgh districts, after numerous complaints had been made of excessive profits or extortionate prices on the commodities of life.

The history of the appointment of the Commission and its work, as gleaned from official state records, may be noted in connection with an account of Concurrent Resolution No. 10:

“In the Senate, January 21, 1907.

“Whereas, Notwithstanding a general employment of and demand for labor throughout the Commonwealth at higher wages than heretofore prevailed the price of food stuffs and the general cost of living during the past two years has increased to an alarming extent, and particularly so in our great industrial centers, and

"Whereas, The increased cost of living is proving a great burden and hardship to the average wage earner, and

"Whereas, It is urged, in certain sections at least, that this greatly increased cost of living has been brought about through unlawful combination in restraint of trade, and discrimination, and

"Whereas, There is an abundance of evidence to be had with the conditions above mentioned existing, and are becoming daily still more alarming; therefore, be it

"Resolved (if the House of Representatives concur), That a committee consisting of two members of the Senate, to be appointed by the President Pro-tempore, and three members of the House of Representatives, to be appointed by the Speaker, be and the same is hereby constituted and authorized to make a thorough investigation of the actual conditions of all such matters throughout the Commonwealth; to visit such sections as in their judgment is deemed wise, and report to the Legislature on or before March 15th, 1907, their findings, together with such recommendations as they deem will correct the evil complained of and alleviate the deplorable conditions. The said committee shall have power to summon and subpoena witnesses and compel by process their attendance, to give evidence, in like manner as in any court of record. The said committee shall serve without compensation, excepting, however, actual traveling expenses and expense of holding meetings, clerk and stenographic hire, and for the payment of which the sum of three thousand dollars, or so much thereof as may be necessary, is hereby appropriated and directed to be paid by the said Treasurer, from time to time, upon proper voucher and certificate of said committee.

"Approved—The 14th day of February, 1907.

EDWIN S. STUART."

On the 6th of March concurrent resolution No. 15 was introduced in the Senate, extending the time of report to April 10, 1907, which was approved by the Governor, and in accordance, the report was duly made as follows:

REPORT OF THE COMMISSION TO ENQUIRE INTO THE PRICE OF FOOD STUFFS IN PENNSYLVANIA.

To the Senate and House of Representatives of the Commonwealth
of Pennsylvania:

Gentlemen:—Your commission appointed under a joint resolution approved the fourteenth day of February, Anno Domini, one thousand nine hundred and seven, "A joint resolution for the creation of a commission to inquire into the price of food stuffs in Pennsylvania," respectfully submits the following as its report:

The President Pro-tempore of the Senate, in accordance with the provisions of said resolution, appointed as members of the said commission on the part of the Senate, the Honorable Charles H. Kline, of Pittsburgh, and the Honorable Edward F. James, of Hazleton, and there were appointed by the Speaker of the House of Representatives, the Honorable H. I. Riley, of Allegheny; the Honorable Thomas O'Shell, of Allegheny, and the Honorable T. Z. Minehart, of Chambersburg. Soon after their appointment, the said commission held a meeting in the city of Harrisburg, and an organization effected by the election of Honorable Charles H. Kline, as President, and Chester D. Potter, of Pittsburg, as Secretary.

The first meeting of the committee for the transaction of business was held at Pittsburg, Pennsylvania, subpoenaing before us such witnesses, namely: Statisticians, producers, wholesalers, jobbers, commission merchants, retailers, railroad representatives and dealers in special commodities, as we believed were informed on the subject to be investigated, and possessed of such information that would help us to ascertain the cause of the increased price of food-stuffs in Pittsburg and vicinity, and enable us, if possible, to suggest some relief that might tend to correct the practice of overcharge of the necessaries of life.

We find, from the evidence adduced before us, the following facts:

First.—That the price of food-stuffs in Pittsburg and vicinity is somewhat higher than in other cities within this Commonwealth, and in cities within a radius of four hundred or five hundred miles from Pittsburg, and, while the situation has been somewhat exaggerated, it nevertheless exists and should be corrected.

Second.—Only a small percentage of all the food-stuffs consumed in Pittsburg and vicinity is raised near by, thus depriving the city and its people of a full market. About ninety-five per centum of

the produce must be shipped into the city of commission merchants, jobbers, wholesalers and retailers, thus depriving the consumer of the privilege of buying direct from the producer.

Third.—We find that the commission merchants and wholesalers do not acquaint the producers of food-stuffs in the large producing districts from which supplies to the Pittsburg market should come with the prevailing market quotations in order that the producer may be kept in close touch with the Pittsburg market so that he may know the advantages to be derived from shipping his products to that market, in the absence of which, the commission thinks, permits the commission merchants and wholesalers to regulate the supply of this market, which necessarily maintains the high prices.

Fourth.—We also find that the price of butter, cheese and milk to a great extent is regulated by the Elgin Board of Trade, which meets weekly at Elgin, Illinois. This action is highly detrimental to the interests of the State, for we firmly believe that the prices should be regulated by the supply and demand of the local markets of the State. In reference to milk, we further find, that the receivers do not acquaint the producers of this commodity with the price that they will receive for their milk until after a period of thirty or forty-five days from the time of shipment, which enables the receiver to arbitrarily fix the price of the milk so shipped and consumed and has a tendency to cause the shipment of their products to other markets.

Fifth.—We find a practice permitted by some of the railroads by which they encourage the wholesalers and commission merchants to use their cars as a storage place, from which goods are vended to the retailer, and, in some instances, delivered to the consumer. In our opinion, this is a great inconvenience and retards the prompt receipt and quick delivery of goods consigned, not only to the wholesalers, but also to the retailer and consumer, causing great loss in the handling of green and perishable goods. This practice, while a source of much revenue to the railroads on account of demurrage and storage, is not practiced elsewhere, and should be discontinued.

Sixth.—We find that the practice of giving premiums and trading stamps by many of the merchants throughout the State is found by the commission to have an effect upon prices, in that while they apparently reduce, they in reality enhance prices, because additional cost must be added to pay for such premium or trading stamps.

Seventh.—We also find the use of short measure and weights is indulged in by a large number of unscrupulous vendors of edibles, which gives rise to much complaint in apparent overcharge.

Eighth.—Competition is keen, and many merchants seek and exact exorbitant profits, and, while there has been repeated efforts on the

part of some of the citizens to correct this abuse and secure co-operation of the different merchants for the public good, yet this independence and greed for profit prevails in all pursuits, and little encouragement has been given to those who have tried to bring about relief along this line.

From the facts above set forth and the evidence gathered from all lines of trade, people, consumers and those who have made careful investigation, as well as from those who have filed statistics, all of which was sought by your committee and offered without and apparent hesitation, we are of the opinion that if pending legislation is enacted into laws it will greatly relieve the present situation.

The committee makes the following recommendations:

First.—That trolley companies have the right to carry freight, which will enlarge the competition along this line, encourage the production of a larger food supply to home markets, bring the producer into closer touch with the consumer, and thus eliminate the middleman's profits, which, in many instances, we find are very exorbitant.

Second.—A railroad commission, when clothed with full power to act, may be able to recommend and enforce such measures as will tend to lessen the price of food-stuffs by reason of the charges now made for demurrage and storage, and also to relieve the situation from much loss sustained on account of perishable goods, all of which the consumer is now called upon to pay.

Third.—The passage of a law prohibiting the use of premiums and trading stamps, indulged in to such a large extent throughout the State, will reduce the price of the necessities to the consumer.

Fourth.—We further recommend that municipalities repeal, enact and enforce, by ordinance such rules and regulations as will encourage the producer to come into closer contact with the consumer.

Fifth.—We further recommend the passage of a law to regulate weights and measures, through which much relief will be brought to the consumer.

Sixth.—We further recommend the passage of a law permitting persons dealing in food-stuffs to garnish wagons and salary for the payment of bills incurred by the purchase of food-stuffs.

Seventh.—We further recommend that the Department of Agriculture prepare complete statistics of the State relative to the cost of production of various food-stuffs, in the different parts of the Commonwealth.

We desire to state that the Commonwealth has found in its investigation, that the field is so large that adequate time was not given for a complete and thorough investigation into this matter.

and if the foregoing recommendations are carried out, will be a source of great relief.

Respectfully submitted,

(Signed.)

CHARLES H. KLINE,
Chairman.

EDW. F. JAMES,
THOMAS O'SHELL,
H. J. RILEY,
T. Z. MINEHART.

CHESTER D. POTTER,
Secretary.

TABLE OF COMPARISON.

In the prosecution of its work the Commission was aided by the use of the following table, which indicates also the scope of the inquiry.

AVERAGE WHOLESALE PRICES OF FOODSTUFFS, PITTSBURG, COMPARED WITH AVERAGE OF FOUR OTHER CITIES, JANUARY 7, 1907.

Articles.	Pittsburg.	Average four cities.	Pittsburg's Relation to the Average.	
			Per cent. above.	Per cent. below.
DAIRY.				
Eggs, dozen,	\$.21	\$.24¾	.....	13.8
Cheese, pound, .....	.14¼	.15%	.....	.9
Butter, pound, .....	.29½	.25%	14.6	.....
PROVISIONS.				
Hams, pound, .....	.11⅞	.11¾	00.1	.....
Shoulders, pound, .....	.10½	.09 2-5	11.7	.....
Bacon, pound, .....	.13⅝	.13 1-3	00.2	.....
Lard, pound, .....	.10	.09 4-5	.5	.....
VEGETABLES.				
Potatoes.				
White, bushel, .....	.52½	.46	14.1	.....
Sweet, bushel,	1.57½	1.20¾	30.3	.....
Cabbage, ton,	32.50	23.37½	39.1	.....

AVERAGE WHOLESALE PRICES OF FOODSTUFFS, PITTSBURG, COMPARED WITH AVERAGE OF FOUR OTHER CITIES, JANUARY 7, 1907.

	Pittsburg.	Average four cities.	Pittsburg's Relation to the Average.	
			Per cent. above.	Per cent. below.
FRESH MEATS.				
Steers, Cwt.,	4.30	4.46½	.....	36.9
Cows, each,	33.00	37.75	.....	12.5
Sheep, each,	3.87½	3.77	2.7	.....
Lambs, each,	5.75	6.05	.....	5.0
Hogs, each,	6.12½	6.82½	.....	10.3

NOTE: Furnished by Pittsburgh Chamber of Commerce.

PENNSYLVANIA FARM PRODUCTS.

In the earlier years of our country Pennsylvania was in the front rank in point of agricultural products. Its farm life was developed to a higher degree than that of any other state. Industrially it is still so important that the statistics pertaining to it deserves place among those of the other interests of the State. Future efforts will be made to give such statistics in greater detail than it now here possible.

A crop statement, compiled from National official sources in 1905, permits the following deductions: In point or acreage, production, value of product, compared with other states in the Union, Pennsylvania occupied the following positions:

Rye, 346,265 acres; 5,885,505 bushels; worth \$3,825,228 and first in rank.

Hay, 3,072,021 acres; 4,608,032 tons; worth \$54,973,822, making the State second in rank.

Potatoes, 253,997 acres; 22,841,730 bushels; worth \$14,847,124, placing the State second in rank.

Buckwheat, 232,398 acres; yielded 4,647,960 bushels; worth \$2,602,858, placing the State second in rank.

Oats, \$1,161,186 acres; produced 39,480,324 bushels; value at \$14,212,917, giving the State sixth rank.

Wheat, 1,629,279 acres; yielded 27,860,670 bushels; worth \$24,238,784, and the State ranked eighth.

Corn, 1,441,997 acres; produced 36,085,903 bushels; valued at \$30,-286,388, and tenth in rank.

The value of eggs produced in 1905 was \$15,000,000.

The entire farm products above listed amounted in value to \$159,-987,121.

A comparison of the foregoing crop products with those of 1907* shows but little change in the matter of acreage. But, in most instances, the average yield per acre was greater and the average market price higher than those averages for the entire United States.

The value of the total products in 1907, was \$169,338,000, not including 40,320,000 pounds of leaf tobacco.

FARM ANIMALS.

The rank of Pennsylvania in the matter of farm animals was as follows:

Milch Cows, 1,097,590; worth \$37,647,337, third in rank.

Poultry was value at \$4,483,486, fourth in rank.

Horses, 656,106, valued at \$67,296,787, sixth in rank.

Sheep, 1,102,058, worth \$5,102,529, eighth in rank.

Hogs, 999,686, worth \$8,447,313, twelfth in rank.

Other cattle than milch cows, 867,436, worth \$15,093,386, seven-teenth in rank.

Mules, 40,459, worth \$4,302,002, the State being eighteenth in rank.

The total value was \$142,372,840.

A year later the value of such farm stock was reported by Pennsylvania Department of Agriculture as \$144,381,829.

THE FRUIT INTERESTS.

The fruit interests of the State are of far greater importance than is generally supposed. From the report of complete inspections made in four counties by the Division of Zoology of the Pennsylvania Department of Agriculture the following estimates and deductions are permitted to show the possible condition in the entire State. The counties named are hardly representative fruit sections, hence the calculation may be accepted as very conservative, and with the full belief that there is no over-estimate of the number of fruit trees in the State or their probable value to the owners.

*As compiled for the Pennsylvania Railroad Company by William J. Rose of Harrisburg, Pa.

Arranged in tabular form the following exhibit is shown:

Counties Inspected.	Farm land—Acreage.	Number of Apple trees.	Number of Pear trees.	Number of Peach trees.	Number of miscellaneous fruit trees.	Total number of all fruit trees.
Forest,	59,624	6,982	553	976	337	8,848
Snyder,	154,067	54,092	5,436	257,241	8,161	324,930
Sullivan,	99,956	39,607	3,488	6,969	4,526	54,050
Warren,	276,525	22,302	2,597	1,527	2,124	28,550
Total,	590,172	122,443	12,074	266,713	15,148	416,378

Taking the farm lands of the above four counties, totaling 590,172 acres, and comparing them with the area of farm lands of the whole State, 19,375,037 acres, there is produced the ratio of 1.32 5-6. And on that basis of proportion there are in the entire state the following fruit trees:

Apple,	4,020,212
Pear,	385,773
Peach,	8,757,077
Miscellaneous,	497,402

Total,	13,660,464
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Assuming that each tree of whatever nature is worth \$5.00 per tree only, there is produced a value of \$68,302,320. Great as that is, it is capable of being increased almost indefinitely by the development of the fruit growing industry of the Commonwealth.

A helpful adjunct of the revived industry is the Pennsylvania nursery. Two thousand, nine hundred and ten acres are occupied by the one hundred and fifty-six nurseries of the State, and their plants and trees have been carefully and systematically inspected to insure against disease.

FARM WAGES.

There was a wide range in the farm wages paid in 1907. The wages of male labor per year, with board, varied from \$180.00 to \$300.00, the average for the entire State being \$220.00.

The amounts paid for labor in summer months only, when board was provided, varied from \$17.00 per month to \$30.00, the average for the State being \$22.50.

Farm employment for males, when board was not provided, was compensated at an average rate of \$315.00 per year.

The average daily pay for labor, not including the harvest period, was, when board was provided, \$1.10; when board was not provided, the average rate was \$1.45 per day.

There was remarkable uniformity of rate paid to household female help with board provided, the rate in most counties being \$2.50 per week. However, in a few counties, the pay was as low as \$2.00. In a number the rate was \$3.00, and in a very few \$3.50 or \$4.00, making an average rate per year of \$2.75 per week for the entire State for female farm wages.

These figures demonstrate that farm labor in Pennsylvania is not inadequately compensated and when the matter of cheaper living in the country is taken into consideration ample inducement is found for a movement from over-crowded cities to country places, or the farm itself with its more wholesome conditions and privileges.

Moreover when once the farming community shall have the privileges and benefits of the social uplift, so happily recommended by President Roosevelt, the conditions will not only be vastly more tolerable, but country life will be so attractive that those who can be in closer touch with its advantages will gladly embrace the opportunity to become suburbanites.

PENNSYLVANIA'S LIQUOR BUSINESS.

Interesting data upon the liquor business of Pennsylvania has been gathered from various sources, mainly from the reports of the National Government, and more particularly from those relating to the internal revenues. They are here given as matters of information and for reference, because they sustain such an important relation to the several industries of the State and the general welfare of the Commonwealth.

For convenience in collecting the internal revenues the territory of the State of Pennsylvania is divided into four districts, which, so far as the United States Government is concerned, are known by numbers only, but which, for the convenience of the general reader, may be designated also locally:

The first district under this classification embraces Philadelphia and surrounding counties.

The ninth district embraces the counties contiguous to the foregoing, including the counties located centrally in the State, with revenue offices at Harrisburg and Lancaster.

The twelfth district embraces the northeastern section of the State, with revenue headquarters at Scranton.

The remainder of the State, not embraced in the foregoing districts, constitutes the twenty-third district, with headquarters at Pittsburgh.

In the fiscal year ending June 30th, 1907, there were one hundred and sixteen (116) registered distilleries in the State, but fifteen (15) were not in operation. Those in operation were located as follows: In the Philadelphia district, 9; Harrisburg district, 20; Scranton district, 11, and the remaining 61 were in the Pittsburgh district.

About four-fifths of the distilled liquors made in Pennsylvania was produced in the twenty-third, or Pittsburgh district; but almost one-half of the fermented liquors made in the State were produced in the first, or Philadelphia district.

The stills of Pennsylvania have a daily capacity for nearly 20,000 bushels of grain. However, the consumption in the last fiscal year was smaller, the quantity being as follows:

Malt,	424,952 bushels.
Wheat,	6,907 "
Barley,	146 "
Rye,	1,884,617 "
Corn,	130,110 "
<hr/>	
2,446,732 bushels.	

In addition there were used 7,920 gallons of molasses in the manufacture of rum and other liquors.

The distilled product of liquors can be roundly estimated as 4½ gallons of spirits to a bushel of grain.

Attention is called to the yearly consumption of rye in Pennsylvania in the manufacture of liquors, mainly whiskey, the amount being about 300,000 bushels more rye in this State than that in any other state.

In the period above considered there were used in the United States, in the distillation of liquor, 34,211,231 bushels of grain, of all kinds, yielding a product of 154,519,516 gallons of liquor.

In the past ten years there has been an increased yearly production of distilled liquors in the United States. The aggregate product of all kinds was, in 1898, 80,762,213 gallons, showing an increase of nearly 100 per cent. within that period. But the increase in the more recent years has greatly exceeded 10 per cent. per annum.

Pennsylvania's product of distilled liquors in the last fiscal year was, rye whiskey 10,301,395 gallons; other distilled liquors 161,659 gallons, making a total product of 10,463,054 gallons.

On the basis of taxes paid into the Treasury of the United States as internal revenues received from the manufacture of spirituous liquors in the fiscal year 1906-7, the leading states rank as follows: Illinois was first, paying more than \$54,000,000 of taxes; New York was second, with over \$32,000,000 of taxes; Indiana ranked third, with more than \$29,000,000 of taxes; Kentucky was fourth, with over \$28,000,000 of taxes; Pennsylvania was fifth, with more than \$22,000,000 taxes paid; and Ohio was sixth in rank, paying about \$1,000,000 less than the State of Pennsylvania. The fifth revenue district of Illinois alone paid more than any other state in the Union—the taxes collected in that district being more than \$35,000,000.

In the matter of fermented liquors, the conditions were almost reversed, New York was the leading state, producing more than 13,000,000 of barrels of fermented liquors yearly; Pennsylvania stood second in rank, its product being 7,541,796 barrels of fermented liquor; the State of Illinois occupied third rank, its product of fermented liquors being about 5,000,000 barrels.

During the fiscal year ending July, 1907, there were in the State of Pennsylvania 572 establishments rated as wholesale dealers of distilled liquors, and 18,689 places where such liquors were sold in a retail way.

There were in the State, in that period, 248 brewers, and 1,099 wholesale dealers in malt liquors only. The exclusive retail dealers in malt liquors numbered but 762; and, with the 311 rectifiers of liquors, there was a total of 21,681 persons engaged as principals in the liquor traffic of the State.

THE CIGAR INDUSTRY.

The cigar industry of the State maintains its importance. In 1906* there were 4,853 cigar factories in Pennsylvania, or more than one-sixth of the number of the entire United States. About one-half—2,281—were located in the ninth or Harrisburg district. Nearly all of these were engaged in the manufacture of large cigars—those requiring almost twenty pounds of leaf tobacco per one thousand cigars, and the yearly product of that nature was 1,923,575,754 cigars. In addition there was the product of 60,850,720 small cigars, or those weighing less than three pounds per thousand cigars.

As a maker of large cigars Pennsylvania exceeded any other state, the next in rank being New York, whose yearly product was about one-half a billion cigars less. The third producer of large cigars was Ohio, whose output was about one-third only that of Pennsylvania.

*Report of Commissioner of Internal Revenue.

New York leads the country in the manufacture of small cigars and cigarettes, producing about four times more than Pennsylvania, and outranks all other states in the value of tobacco products. But since 1900 its increase of business has been about one per cent. less than that of this State. The yearly increase of the cigar business of Pennsylvania is slightly less than five (5) per cent.

In 1905 the male labor employed in the cigar business of the State numbered 14,387, and their earnings were \$6,095,798.

The female labor numbered 14,336, with earnings of \$3,956,441.

There were employed as children under sixteen years of age 1,597, and their pay was \$226,561.

The total labor employed was 30,320, and the earnings were \$10,278,800. More than \$22,000,000 were required to carry on these operations, and the proprietors and firm members numbered 3,096. The material used and the expense of manufacturing amounted to \$23,089,224, and the value of the manufactured products was placed at \$39,079,122.

In the United States there were, in the same period, 16,396 cigar making establishments, employing 72,970 males; 57,174 females; and 5,274 children under sixteen years of age. The capital invested and used to carry on the operations amounted to the large sum of \$145,135,945, Pennsylvania's proportion being more than one-seventh part of that amount.

THE PORTLAND CEMENT INDUSTRY IN PENNSYLVANIA.*

Pennsylvania is richly endowed with limestone, shale and clay suitable for the manufacture of Portland Cement. These materials have been so disposed by Nature as to render them readily accessible for commercial use. Not only have these calcareous and silicious materials been abundantly distributed, but their occurrence is in close proximity to the coal measures of this and adjoining states, and it is due to these two causes, combined with conservative management, a ready market, and exceptional labor conditions, that our cement resources have been developed on so grand a scale that to Pennsylvania belongs the proud distinction of not only having a larger output than any other state, but her product is equivalent to forty per cent. of the entire output of Portland Cement manufactured in the United States.

Impressive as the foregoing statement may seem, much more so will it be when we add that only a portion of our resources has thus far contributed towards placing Pennsylvania at the head of cement manufacturing states.

*By J. W. Fuller, Jr., Fullerton, Pa.

HISTORICAL

From the very inception of the cement industry in Pennsylvania, the well known cement rock of the Lehigh district has been the chief source of supply of raw material. This rock is an argillaceous limestone of the Trenton formation and occurs most prominently in Northampton, Lehigh, Berks, Lebanon, Dauphin, Cumberland, Franklin, Lancaster, Centre and Blair counties. The rock generally dips northwest-ward, and has been quarried to a depth of 260 feet in some places without encountering the highly magnesian Kittatinny limestone which underlies the entire cement rock formation.

Cement rock is usually dark grey in color, but is often found having a black glistening appearance. As the content of calcium carbonate increases, the color become a somewhat lighter grey, and with the change in chemical composition, a change in the physical structure asserts itself. Instead of breaking into flat slaty slabs, it shows a decided tendency to break into cubical fragments. This change both in chemical and physical properties manifests itself more strongly the lower we go in this formation, and as it approaches the Kittatinny limestone it is no longer known as cement rock but as limestone.

The percentage of calcium carbonate in cement rock varies from sixty to seventy-seven per cent. As it is the usual practice to control the raw material mixture so that it has a calcium carbonate content of about 75 per cent., it can be readily seen that in some instances it is necessary to add a high carbonate limestone to the cement rock in order that it may have the proper composition before it is calcined.

A number of plants in the Nazareth and Martins creek districts have deposits of cement rock having the correct composition for Portland Cement manufacture. The greater portion of the plants however must add a certain percentage of high carbonate limestone to their cement rock before the raw material is suitable for burning. This high carbonate limestone is either obtained from the low magnesian beds of the Kittatinny formation, or from the lower portion of the Trenton formation. Both these measures furnish an abundant supply of the purest and highest grade of limestone.

There are at present thirty-seven fully equipped Portland Cement plants in Pennsylvania. Thirty-three of these are located in the cement rock district, and inasmuch as the industry had its inception in this district, the history of Portland Cement manufactured in Pennsylvania may be said to hinge on the progressive and successful development of the resources of this district.

The first rock suitable for cement manufacture in Pennsylvania was discovered in 1831 near Williamsport. At this time a canal was in

progress of construction between Muncy, Lycoming county, and Lock Haven, Clinton county, and as excavations progressed a large mass of rock was exposed which proved suitable for making cement. A small plant was built and the cement was used on the canal. In the course of about three years, however, no other market was found for the product of this plant and the project was therefore abandoned shortly afterward.

The first cement rock deposits of Pennsylvania were discovered at Siegfried in 1850 by the engineers of the Lehigh Coal and Navigation Company, who were engaged in building a canal from Easton to the company's coal lands at Mauch Chunk. Immediate advantage of this discovery was taken, and a small plant was erected for manufacturing natural cement, the entire output of the plant being utilized for canal construction purposes. Thus it will be seen that the earliest discoveries of cement materials in Pennsylvania were both due to the successful development of canal construction projects.

It was not however until 1875 that Portland Cement was successfully manufactured. After a series of experiments covering a period of about five years, Mr. D. O. Saylor produced the first commercially successful Portland Cement manufactured in the United States. These researches were conducted in his plant at Coplay, and at that time the methods of manufacture were so crude, and the cost of production so high as almost to prohibit the introduction of this material. One year after this a start was made to develop the cement resources of the western part of the State. In 1876 a small plant was erected at Wampum, Lawrence county. The materials used at this plant consist of ferriferous limestone and clay. Both these pioneer Portland Cement plants are still in operation, and their growth has been commensurate with the demand for their product. As soon as it became known that a Portland Cement could be manufactured in Pennsylvania which compared in quality with the foreign brands, immediate attention was given to developing methods which would lower the cost of manufacture, and with the introduction of the rotary kiln in 1889 by the Atlas Portland Cement Company, the Portland Cement industry was placed in a position where it could compete both in quality and price with the foreign brands which before this date had monopolized the American market. The enterprise and initiative displayed by this company in adapting the rotary kiln to cement manufacturing purposes assisted materially in establishing the Portland Cement industry on the substantial footing it now occupies, not only in Pennsylvania, but in every locality in America where Portland Cement is manufactured.

PROCESS OF MANUFACTURE.

The manufacture of Portland Cement is a series of practical operations. The process is continuous and requires constant and careful supervision. The raw material is hauled in large quantities and the finished product is shipped in car load lots. To handle the materials during the successive stages of manufacture, and dispose them most advantageously to the various units, requires the most approved executive methods and the latest and most improved machinery installations.

The various changes undergone by the raw materials during the process of manufacture may, broadly speaking, be attributed to two distinct operations. One of these is mechanical and covers the reduction of the raw material, coal and the cement clinker. The other is chemical and applies to the change wrought by the calcination of the finely pulverized material. Since the mechanical operation covers the fine pulverization of the cement clinker as well as the crushing and fine pulverization of the raw material and coal, it might perhaps be advisable to discuss this subject after calcination has been effected.

Calcination consists in driving off the carbon dioxide from the raw material by means of intense heat and is now generally effected by means of the rotary kiln. The kiln consists of a substantial wrought steel cylinder mounted on several sets of rollers. The cylinder is erected with a slight inclination from the horizontal, this inclination varying in different plants from one-half inch to seven-eighths inches per foot. The kiln is rotated axially by means of a suitably arranged train of gears driven by a motor or from a line shaft. The entire kiln is lined inside with a highly refractory lining varying in thickness from 12 inches and 6 inches in the clinkering zone to 4 inches at the feed end. The feed end of the kiln terminates in a brick chamber which serves to support the stack required to discharge the waste products of combustion. The raw material is fed into the kilns in a uniform stream usually by means of a screw conveyor which has its source of supply in a storage tank placed near the feed end of the kiln.

Finely pulverized coal is introduced at the lower end of the kiln either with a blast of air or by means of natural draft induced by the kiln stack before mentioned. The finely pulverized coal is ignited and the intense heat resulting from the combustion of coal, together with the heat evolved by the chemical reactions taking place in the raw cement material subjected to this intense heat, changes the material as it gradually travels down the kiln from a fine powder to a fused cement clinker.

The raw material fed to the kiln contains about 75 per cent.

Calcium Carbonate and sometimes as high as 4 per cent. Magnesium Carbonate. In addition to these ingredients are found silica, alumina, iron, alkalies, sulphuric acid and water. Practically the entire amount of carbon dioxide is expelled from the calcium and magnesium carbonates during the calcining process. Any water present in the raw material is driven off. The lime combines with the silica and alumina and forms tri-calcium silicate and di-calcium aluminate. Silica is the active factor which causes the cement to harden. Lime in the combined state has the property of giving cement its strength, and alumina has the property of governing the set of cement. Iron oxide when present within certain limits exerts little influence on the physical properties of cement. It materially assists however in burning high silica mixtures in that it acts as a fluxing agent. Magnesia is generally considered an adulterant and its content is kept as low as possible. The functions it performs are not yet definitely determined, but the prejudice against the small percentage generally found in Portland cement is gradually being overcome. Sulphuric acid regulates the setting properties of cement and for this reason it is always added in the form of gypsum or plaster of Paris after the material has been calcined. A well balanced Portland cement will be found to have the above ingredients occur within the following limits:

Silica,	19-26 per cent.
Alumina,	4-10 per cent.
Iron oxide,	2- 5 per cent.
Lime,	58-67 per cent.
Magnesia,	0- 4 per cent.
Sulphuric acid,	0- 1.75 per cent.
Alkalies,	0- 3 per cent.

IMPROVED METHODS OF MANUFACTURE.

The output of a plant is based upon the capacity of each kiln and the number of kilns in operation. The capacity of a kiln is a function of its length and its diameter. The earliest rotary kilns were 5 feet diameter and 40 feet long. Crude oil was used for fuel and the output per kiln never exceeded 100 barrels per day of 24 hours. In order to obtain a larger output a kiln 7 feet diameter was tried, but instead of being 40 feet long it was made but 30 feet in length. Better combustion was obtained with this size kiln and a slightly increased output resulted. After a thorough trial a kiln 6½ feet in diameter was built, but its length was increased to 60 feet. Good results were obtained with this kiln, and with the introduction of pulverized coal as fuel in 1896 by the Atlas Portland Cement Company the output per kiln was increased to slightly over 200 barrels

per day. This size kiln gave such satisfactory results that it was the standard size kiln for the first fourteen years of rotary kiln practice. Nearly all the earlier Portland cement plants were equipped with kilns about 60 feet long and from 6 feet to 7 feet diameter, and although some plants were at various times equipped with kilns smaller than these, the above dimensions were closely adhered to. It was not until late in 1903 that any practical tests were made on kilns exceeding this length. In this year the Atlas Portland Cement Company following the initiative of Thomas A. Edison, installed two kilns about 85 feet long in one of their plants at Northampton. The increased output obtained from these kilns together with the saving in fuel, immediately prompted them and all other manufacturers to increase the length of their kilns wherever conditions would permit. After the longer kilns had demonstrated a substantial increase in output, attention was given to the effects which would follow an increase in the diameter of the kiln with the results that an increase in diameter also materially increased the output of the kiln. In this matter the kiln has been increased from 40 feet to 140 feet in length and from 5 feet to $8\frac{1}{2}$ feet in diameter. In order to show the diversity in the sizes of kilns operated by the various manufacturers during 1907, we give below two tables, one showing the various lengths of kilns, the other showing the various diameters. The wide range in length is due to the fact that as soon as the long kiln had demonstrated its economic worth, every operator increased the length of his kilns as much as local conditions would permit.

TABLE NO. 1.		TABLE NO. 2.	
Range in Length of Kilns in Operation During 1907.—Length of Kilns.	No. in operation.	Range in Dia. of Kilns in Operation During 1907.—Dia. of Kilns.	No. in operation.
40'-49',	10	5',	2
50'-59',	7	6',	52
60'-69',	54	$6\frac{1}{2}$ ',	95
80'-89',	47	7',	70
100'-109',	71	$7\frac{1}{2}$ ',	44
110'-119',	14	8',	1
120'-129',	28	$8\frac{1}{2}$ ',	2
130'-139',	27		
140',	8		
	266		266

Revolutionary as the introduction of the rotary kiln was, the old style dome kilns managed to hold their own for a number of years covering the early development of the rotary kiln. This was not due however to any superiority of dome kiln cement over rotary kiln cement, but rather to the ready market found for all the Portland cement that could be manufactured, irrespective of whether it was burned in a dome kiln or rotary kiln. They dome kiln however has practically disappeared, and although one company in the Lehigh district still operates four plants having a total of fifty-three of these old style domes, the output from this style of kiln is so limited that they are no longer considered a factor in the industry. In order to show how the rotary kiln has supplanted the older types reference may be had to the following table which shows the comparative amounts of Portland cement burned in the United States with rotary and dome kilns from 1892 to 1899 inclusive. This period is selected because it shows that the rotary kiln established itself as a cement producer at a time when the dome kiln was attaining its maximum development. A number of old style kilns were built after this period notably the large Dietsch kilns of the Coplay Company, ten of which were erected in 1893. These kilns are perhaps the best examples of dome kiln practice ever introduced in the United States, but ten years after they were put into operation they no longer served as producers. Their smokeless domes are still standing, impressive indicators of the progress made in manufacturing methods. This is merely cited as an instance to show how decisively the rotary kiln has superseded the dome kiln.

TABLE NO. 3—SHOWING COMPARATIVE AMOUNT OF PORTLAND CEMENT BURNED IN THE UNITED STATES WITH ROTARY AND DOME KILNS FROM 1892 TO 1899 INCLUSIVE.

	Rotary kiln. Barrels.	Dome kiln. Barrels.	Total amount. Barrels.
1892,	104,000	443,440	547,440
1893,	149,000	441,652	590,652
1894,	242,176	556,581	798,757
1895,	400,821	589,503	990,324
1896,	632,370	910,653	1,543,023
1897,	1,311,319	1,366,456	2,677,775
1898,	2,170,782	1,521,502	3,692,284
1899,	3,711,220	1,941,046	5,652,266

With the tremendous increase in output made possible by the rotary kiln came an increased demand for cement. The sphere of usefulness for our domestic product was rapidly growing, and the increasing knowledge of the numerous uses to which cement could be adapted naturally developed a more exacting cement using public. Cement ceased to be sold by reputation, and is now subjected to rigid inspection before being used. Owing to the different methods of testing cement in use, not only by the various manufacturers, but by the purchasers and their engineers, frequent disputes arose as to what constituted an acceptable product. This finally resulted in the adoption of a set of standard specifications, and also a standard method for testing Portland cement. All the cement now manufactured is made to these specifications, thus insuring an absolutely uniform quality of material.

Although calcination of cement by the rotary kiln was a revolutionary step, its effects were no more far reaching than were those which resulted in the development of machinery suitable for pulverizing the raw material, coal and clinker to the required degree of fineness.

The proper proportioning of the raw material, together with the effects of proper and improper burning are now quite thoroughly understood. A raw material mixture may however have the correct chemical composition, and it may further be subjected to the proper calcining heat, but the resulting cement may still be found to be unsound. The defect is not chemical but physical and must be overcome by mechanical means.

The cement materials of Pennsylvania are of such a nature that they are well suited to plants utilizing the dry process of manufacture. In fact every plant in Pennsylvania is operated on the dry process method. The adoption of this system makes it imperative to pulverize all the materials entering into Portland cement manufacture, and it is only natural to expect that a district in which the Portland cement industry had its inception should also be instrumental in developing and perfecting machinery capable of pulverizing to the proper degree of fineness the various materials entering into cement manufacture.

Cement and cement materials were at first ground on Buhr stones. This method of grinding was slow, giving a low output and a high power rating per barrel of cement produced. This type of mill gradually gave way to the Griffin mill and mills of this type. These types of mills for a time were quite popular, but their output was small and the cost of maintainance extremely high. They held their own for a time in spite of their deficiencies until the specifications began to call for a higher degree of fineness than they were capable of producing commercially. The combination of a ball and

tube mill has been extensively used, but this arrangement has its serious disadvantages. In the first place the combination of a ball and tube mill requires an expenditure of about 12 H. P. per barrel of cement produced. In order to get an output of 14 barrels of cement per hour from a 5x22 feet tube mill it is necessary to feed the mill with material 90 per cent. of which will pass a 20 mesh sieve. In reducing material to this fineness in a ball mill it will be found that about 68 per cent. of the material delivered by the ball mill will pass 50 mesh sieve, about 50 per cent. will pass a 100 mesh sieve and about 45 per cent. will pass a 200 mesh sieve. After this material has been fed to the tube mill and samples taken of the product delivered by the tube mill it will be found that the fineness of the cement will just meet the specifications. To do this the mills have consumed an enormous amount of power, and owing to the crude method employed in reducing the material their cost of maintenance is relatively high.

In order to take advantage of the fine material delivered by the ball mill a number of air separating schemes have been tried and found wanting. These systems have failed simply because they rob the material of a certain amount of fineness, which although they may be light enough to be floated off in a current of air, have still not been reduced to the degree of fineness which will class them as impalpable powder.

A number of plants equipped with mills of the Griffin type, knowing that they could not meet the standard specifications for fineness, installed finishing mills in connection with their other types of mills. They now use their former finishing mills for preliminary mills and finish on some other type of mill.

QUALITY STANDARD ADOPTED.

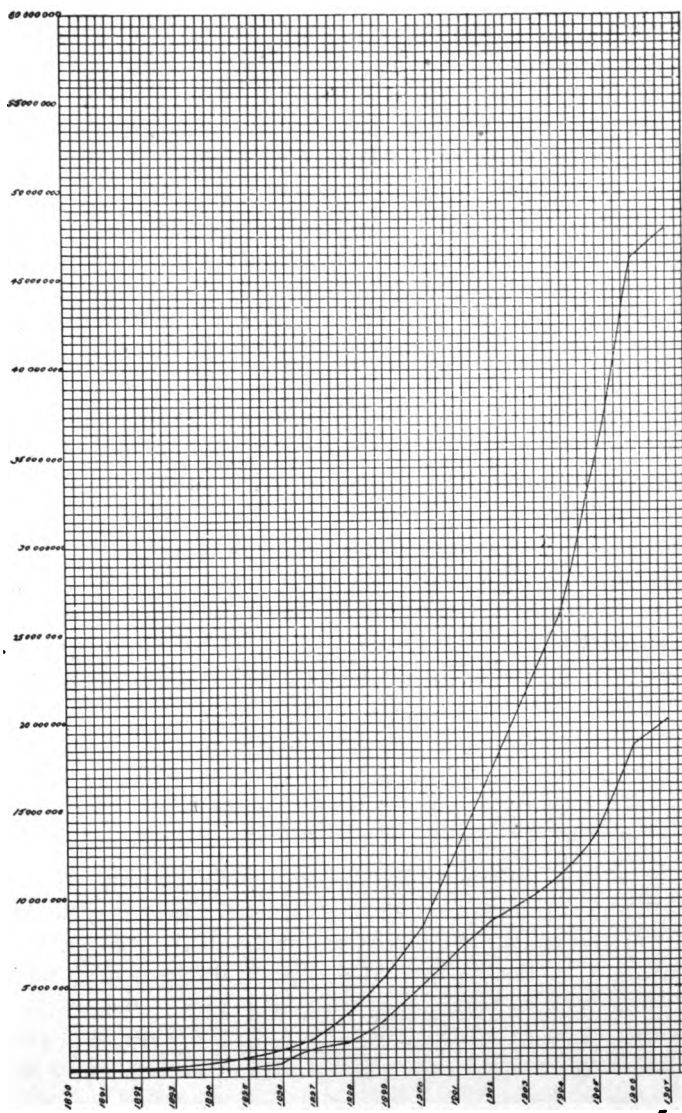
This is the condition of affairs that confronted the committee appointed to standardize cement specifications. They all knew that the residue remaining on a 200 mesh seive is inert. They also knew that the pulverizing machines with which all the plants were equipped at the time were not capable of delivering a product having a fineness such that more than 75 per cent. would pass the 200 mesh sieve. They therefore fixed the amount required to pass the 200 mesh sieve at this figure. Since then, however, decided improvements have been made in pulverizing machines, and with the advent of the Fuller-Lehigh Pulverizer, the fine grinding of Portland cement has not only received renewed attention by the manufacturer, but engineers are beginning to specify cement having a fineness considerably in excess of that called for by the standard specifications.

It has been definitely proven to the entire satisfaction of both the manufacturer and the consumer that the fineness of Portland cement is a true measure of its cementing value. Only the extremely fine particles of cement passing the 200 mesh sieve are actively hydraulic. The greater the percentage of impalpable powder contained in the cement, the stronger will it be and the greater sand carrying capacity will it have. The finer the cement is ground the sooner will it attain a reliable strength. The hardening of cement is caused by the solution and subsequent crystallization of certain of its elements, and it is evident that the finer these elements are, the quicker will this hardening action be effected. The most important result of fine grinding however is the elimination of the liability to unsoundness possessed by all coarsely ground cements. The finer the particles are, the more readily will they become seasoned. All expansive elements will thus become inert, and complete crystallization will set in rendering the mass a unit. From present indications future improvements in cement manufacture will be directed almost entirely towards producing a cement whose physical qualities will be as certain as its chemical composition. The consumer will demand a product having a maximum percentage of active cementing material. He will object to paying for material containing 40 per cent. of inert matter, for it has been shown that even some of the cement passing the 200 mesh sieve has little hydraulic properties. The fineness of cement will no longer be gauged by its amount of 100 mesh or 200 mesh material, but by the percentage of impalpable powder it contains. Fine grinding is the solution of an absolutely uniform, physically reliable product, and when the standard specifications are revised, and revised they must be, they will recognize the merits of fineness and call for a product having a higher percentage of impalpable powder.

GROWTH OF THE INDUSTRY.

In order to obtain an idea of the development of the Portland cement industry, reference should be made to Table No. 4. This table shows the production of Portland cement in the United States from 1880 to 1907 inclusive, and also the production of Portland cement in Pennsylvania from 1890 to 1907 inclusive. These figures were obtained from the reports of the United States Geological Survey in various bulletins on the Mineral Resources of the United States. Supplementing this table is a diagram which graphically interprets the figures showing the development of the Industry during the years 1890 to 1907, inclusive.

It will be noted that during the period from 1890 to 1896 the production of Portland Cement in the United States increased about



COURTESY GEORGE OTIS SMITH, DIRECTOR U.S. GEOLOGICAL SURVEY
 DIAGRAM SHOWING NUMBER OF BARRELS OF PORTLAND CEMENT PRODUCED IN PENNSYLVANIA
 AND IN THE UNITED STATES FROM 1890 TO 1907.

460 per cent., and the production in Pennsylvania for the same period increased about 375 per cent. In 1897 the production of Portland cement, both in the United States and Pennsylvania, increased almost 100 per cent. This may in a measure be attributed to the introduction of pulverized coal for calcining purposes. The following year 1898 developed two interesting features. In this year the production of Portland cement in Pennsylvania exceeded the total amount of Portland cement imported into the United States from Europe. The total amount of foreign cement received in the various ports of the United States during the year 1898 amounted to 2,013,818 barrels, whereas the total production of Portland cement in Pennsylvania amounted to 2,095,141 barrels. The other point worthy of mention is that during this year the total production of rotary kiln cement exceeded the total production of dome kiln cement. This can be verified by referring to Table No. 3. From 1898 up to 1906 the growth of the industry has been marked by a steady increase in output, some years showing a production of almost 50 per cent. in excess of the previous year's output. In 1907 the increase in output both for the entire United States and Pennsylvania amounted to about 1,500,000 barrels. This small increase was due entirely to the abnormal economic conditions which prevailed during the latter half of the year, and should not be construed as an indication that the industry has attained its maximum development. The panic of 1893 had a material depressing effect on the industry in Pennsylvania, but as soon as normal conditions again prevailed, the demands on the Portland cement industry were such that it demonstrated beyond all question the fact that the market was broad enough to accommodate the product of every legitimate enterprise operating on a strictly commercial basis.

The curtailment of output during 1907 extended well into 1908 and has already materially affected the production of Portland cement for this year. It is the consensus of opinion, however, among manufacturers, that as soon as conditions warrant the abolition of the general policy of retrenchment which, wide spread as it is, has affected the Portland cement industry less than it has any other branch of trade, it will find every cement plant having a ready market for its entire product, and the expenditure of millions of dollars will be required for the purpose of building new plants equipped with modern machinery in order to supply, in a measure the demand for material which will be created as soon as normal conditions prevail.

TABLE NO. 4—SHOWING OUTPUT OF PORTLAND CEMENT FROM THE UNITED STATES FROM 1880 TO 1907, AND FROM PENNSYLVANIA FROM 1890 TO 1907.

	United States. Barrels.	Pennsylvania. Barrels.
1880,	42,000	.....
1881,	60,000	.....
1882,	85,000	.....
1883,	90,000	.....
1884,	100,000	.....
1885,	150,000	.....
1886,	150,000	.....
1887,	250,000	.....
1888,	250,000	.....
1889,	300,000	.....
1890,	335,000	221,000
1891,	454,813	268,500
1892,	547,440	300,840
1893,	590,652	285,317
1894,	798,757	437,106
1895,	990,324	504,276
1896,	1,543,023	825,054
1897,	2,677,775	1,579,724
1898,	3,692,284	2,095,141
1899,	5,652,266	3,217,965
1900,	8,482,020	4,984,417
1901,	12,711,225	7,091,500
1902,	17,230,644	8,770,454
1903,	22,342,973	9,754,313
1904,	26,505,881	11,496,099
1905,	35,246,812	13,813,487
1906,	46,463,424	18,645,015
1907,*	*48,000,000	*20,150,000

*Courtesy of George Otis Smith, Director U. S. Geological Survey.

THE CLAYS OF PENNSYLVANIA.

Clays of commercial value are found in every county of Pennsylvania. This could almost be said of every township. The deposits are of wide variety; some of them only a few inches thick, and the thickest upwards of a thousand feet. The area of one deposit may be less than one-fourth of an acre, and another hundreds of acres.

The economic and technical phases of the clay industry of this State are most important. In a single year (1906) this Commonwealth produced and marketed 1,027,541,000 common brick, valued at \$6,586,374, or at the average rate of \$6.41 per thousand. It is safe to say that the other clay products of the State were of equal value, so that in a single year nearly \$14,000,000 worth of finished product are turned out from our natural clays.

GRADES OF CLAYS.

Of the higher grades we have kaolinite (called also kaolin or china clay), found in Adams, Berks, Carbon, Chester, Clinton, Cumberland, Delaware, Lancaster, Lehigh, Philadelphia and York counties; halloysite, found in Delaware and Northampton; allophane, in Berks, Lebanon and Northampton; and poryphyllite, near Mahanoy city, Schuylkill county. All these are of the distinctly kaolinite group. But it is neither necessary nor desirable to go into a description of all the varieties, the deposits of some of which will be fully developed in many years. Therefore we will only treat of the kaolins, the fire clays, the pottery clays and the brick clays, with brief reference to the slip clays, the brick making shales and slates, and the new method of making sand lime brick.

ORIGIN OF CLAYS.

To many the subject of the origin of clay is as a closed book. When rocks containing silica and alumina decay by the restless and constant action of the air, rain and frost, they crumble into earth or soil. This soil contains alumina, silica, lime, magnesia, iron oxide, potash, soda and other constituents. The soils containing the iron oxide are known as ocherous; and, when there is not too large a percentage of iron (say not more than 35 per cent.), it is employed in painting, under the name of mineral paint. Some of these deposits, gradually hardening by lateral and other pressure, and the weight of years, become shales. Many shales of this Commonwealth are nothing more than indurated clay; and when pulverized, have all the elements necessary for first grade brick. The finer shales, when ground, have the same plasticity as clay, and are often moulded and baked into brick, especially of the vitrified kinds for paving. Shales, however, with much bituminous matter in them, can not be used successfully in brick manufacture.

LOCALITIES OF CLAYS.

Where nearly pure silicious rocks are found, in the same locality kaolin or china clay may be confidently looked for. The clay beds are naturally and usually at a lower level than the eroded rocks; but this does not invariably apply, for rocks of higher altitude may

have disintegrated entirely away, and the resulting mass be located at a higher point than any silicious or aluminous rocks of the same neighborhood. This is exemplified in Clinton county, northwardly from Renovo, where high grade kaolin clays are found near the crests of some of the mountains. As a rule clays occur in large bodies in broad valleys; also near the base of high hills or mountains. For instance, in the low lands of the Delaware, the Schuylkill, the Susquehanna, the Allegheny, the Monongahela and the Ohio rivers. Under almost every coal vein or bed there are beds also of clay; some of it of the fire clay variety, and some of it known as residual clay, the latter decidedly gritty, even to the fingers.

Of all the clays mentioned argil (white clay), or potters' clay, of first class quality, has not been located in sufficient quantity in Pennsylvania to prevent its importation from other states and countries. It would be a benefit in several ways to have a systematic expert search for this kind of clay; for it usually ought to be found abundantly in close proximity to the outcroppings of the geologically Silurian age, and the Silurian rocks are found in 26 counties.

Clays of this early origin are usually hard and dense rock, and must be ground for use; and this will apply to the fire clays immediately beneath the carboniferous coal seams.

EXTENT OF CLAY BEDS.

Fire clay beds are numerous and large. The great Pittsburg coal seam, covering in this State, Ohio and West Virginia an area of 17,000 square miles, has brick making material (clays or shales) lying over or under it, and in many places next to it, to more than twice the amount of coal; and this will apply with equal force to the various bituminous coal beds of western Pennsylvania, known as the Nineveh, Dunkard, Jollytown, Washington, Little Washington, Waynesburg B, Waynesburg A, Uniontown, Sewickley, Redstone, Upper Freeport E, Lower Freeport, Kittanning Upper C, Kittanning Middle C, Kittanning Lower B, Clarion, Brookville, and Mt. Savage; one of these clay and shale beds a short distance below the Pittsburg coal being at various places about 100 feet thick. There is no official data to the effect of a thorough testing of these clays for commercial use; probably because most of them would have to be secured by shafting and drifting; but, if any of them were found to be equal or superior to the best imported clays, it might well repay the expense of the investigation. In some parts of Pennsylvania, notably Allegheny, Butler, Clearfield, Clinton, Cumberland, Lawrence and Somerset counties, private enterprise has had much to do with successful fire clay development, and the products have well repaid the outlay. There are hundreds of other beds within our borders that are as yet untouched, and may be for

many years, unless this Commonwealth takes up the subject in the way of economic geology, mineralogy and chemistry, or in the same manner that our sister states of New York, New Jersey and Ohio have done.

It will be interesting to know that in the deepest drill hole in Pennsylvania,—at West Elizabeth, Allegheny county,—where the earth was penetrated a distance of 5,575 feet, the aggregate thickness of the clays, shales or slates, capable of being manufactured into brick, is 4,188 feet; the thickest bed being about 200 feet, and there being a thickness of 125 feet of brick slate from the depth of 5,450 feet to the bottom of the hole. It is not supposed that the vast bulk of these beds will ever be used for brick-making purposes, but the facts are stated that the reader may have some conception of the vast clay deposits of Pennsylvania.

VARIETIES OF CLAYS.

The purest clay found in nature, as has already been intimated, is kaolinite (frequently called kaolin or porcelain clay), composed of silica, alumina and water, and in about the following proportions: Silica, 46.5 per cent.; alumina, 39.5 per cent., and water 14.0 per cent.; total, 100.00 per cent.

Another chemical formula of pure clay has been given as follows: Silica, 46.30 per cent.; alumina, 39.80 per cent.; water, et cetera, 13.90 per cent.; total, 100.00.

The dehydrated pure clay (that is, with the water all driven off), contains silica 57.42 per cent., and alumina 42.58 per cent.; total, 100.00 per cent.

Decomposed kaolinite is properly called kaolin. Pure kaolin according to the foregoing formulae, has not been found, so far as we know, in this State. The nearest approach to it were small beds found in Berks, Carbon, Chester and Schuylkill counties; the first and third in Silurian, and the second and fourth in much younger rocks.

Nearly all kaolins are more or less mixed with free quartz, and generally there is a small percentage of iron oxide; also, lime, potash and soda. A very nearly pure kaolin was found in two localities in Indiana county; one known as "Indianaite" (Cox), made up as follows: Silica, 45.90 per cent.; alumina, 40.39 per cent.; lime, trace; alkalis (potash and soda), 0.40 per cent.; water, etc., 13.26 per cent.; total, 99.86 per cent. Also Indianaite, from the property of the Pennsylvania Salt Company, as follows: Silica, 39.35 per cent.; alumina, 36.35 per cent.; lime, 0.40 per cent.; water, etc., 22.90 per cent.; total, 99.00 per cent.; The product of each deposit was almost snow white. All the kaolins mentioned above could have been used successfully in the manufacture of the best porcelain or china

ware; but, as already stated, the beds were small, and nearly all of them have been worked out, or so nearly, that Pennsylvania manufacturers have been compelled to go to other states for their supply.

CLAY CONSTITUENTS.

As heretofore intimated, silica is present in all clays,—it is a necessary constituent. Silica appears in clays in three forms,—first, as quartz; secondly, that which is combined with the alumina and water as in kaolinite; and, thirdly, that which is combined in silicate minerals, with one or more bases. In the second combination it is sometimes as soft seemingly as putty, and frequently it is not altogether indurated (hardened) in the second type. Quartz appears to some extent in all clays; and in some examinations of clays the first and third varieties are combined as sand. This examination is made in what is called a rational analysis, to distinguish the two from the second type.

Alumina is an absolutely necessary element in clays. In importance it comes next to silica, water or moisture taking third place. Alumina is not only a necessary factor in all clays; but the presence of a large amount of it has almost the same effect as lime in destroying the red color or iron. An excess of alumina in connection with lime and magnesia leads to a bleaching action of the iron, and a buff tint is the product.

Clays contain two kinds of water; the first known as hygroscopic or moisture; and the second is chemically combined water. One variety of moisture is held in the pores of the clay by capillary attraction, and the other adheres to the surface of each clay grain in a very thin filmy manner. The first is the most important on account of its connection with the shrinkage and plasticity of clays. The moisture of clays reaches from thoroughly air dried of $\frac{1}{2}$ of 1 per cent. to 30 or 40 per cent. when freshly taken from a clay deposit. Clays shrink or lose in weight, as a rule, about in proportion to the amount of water driven off. Those most highly plastic (having the power of cohering without other constituents) generally show the highest shrinkage. Clays non-plastic also have large percentages of water. All clays have combined water ranging from 3 per cent. to 14 per cent. The plasticity in plastic clays is not altogether due to water or moisture; but the property comes partly from silica fractionally indurated or hardened; alumina; and often in connection with the alkalies. With these constituents, and the thin plates of kaolinite collected in little bunches, and the capillarity of the moisture acting thereon we have, as it is now believed, this plasticity, or the property which permits the clay to be moulded into any desired form when wet, and to retain that form when dry.

Iron oxide (sometimes called ferric oxide or sesquioxide) is the agent which produces the various shades of yellow and red in clay products both before, during and after burning. (This with the exceptions hereinafter noted.) With iron oxide in a clay, very hard burned, the color may become greenish. Iron oxide (Fe_2O_3), alone may give a purplish or reddish color, depending upon the quantity; a mixture of iron oxide and ferrous oxide (FeO) (sometimes called protoxide of iron) may produce yellow, cherry red, violet, blue or black brick, depending upon the percentage of iron in the mass, and the degree of heat; the higher the temperature the more pronounced or deeper the color. If a white or nearly white color is desired, there must be less than 1 per cent. of iron oxide in the clay, unless there is lime also; but it takes three times as much lime as iron to destroy the red color. If not, then there will remain a yellowish color. Less than one per cent may produce a grayish tint. Too much iron will give a dirty brown color.

Brick clays, if red brick are wanted, are improved by from 1 to 32 per cent. iron oxide, with an average of not more than 6 per cent. iron. Fire clays ought never to have more than 7.25 per cent. of iron oxide, and they should not average more than 1.5 per cent. Kaolins can not contain much more than 0.01 per cent., if a clear white product is sought for.

Iron in the form of ferrous oxide (FeO) alone will produce a green color when the clay is burned.

Manganese, which occurs in some form in many Pennsylvania clays, will color the clay while burning a light green to a blackish green. In some instances it will give the product an unattractive purplish black color.

Clays containing sufficient lime to lead to effervescence (4 or per cent. lime carbonate), when hydrochloric (muriatic) acid is dropped upon it, ought to be rejected for any kind of brick, if the lime occurs in lumpy or pebbly form; but, if in a finely divided condition, it may be an advantage. Such clays containing as high as 20 per cent carbonate of lime can be used for common and even for pressed brick, as well as earthen ware, and especially so in the manufacture of glazed ware.

Magnesia in clays has nearly the same effect as lime; but with sulphur it may lead to a white coating on the surface of the product. This is noticeable at times on the exposed parts of bricks in buildings. If an analysis shows more than 2.30 per cent. magnesia, and 0.50 per cent. sulphur, the material should be discarded for such work as exterior of buildings or exposed interior work, as this whitish appearance will be manifest after a few weeks or months exposure to the atmosphere. In pottery clays, fire clays and kaolins, the less magnesia the better for the product.

Soda is one of the compounds found in most clays. Alone, or in combination with potash, it exerts a fluxing action on burning clay. In kaolins it ought never to exceed 3 per cent.,—or 7 per cent., soda and potash combined. In fire clays the two alkalies (soda and potash) should not have a maximum of more than 5 per cent., better at 2.5 per cent. to 4 per cent.;—but in paving brick or ordinary brick the two may run as high as 15.50 per cent.

Potash is another compound which may be found in clay. When clays contain as much as 35 per cent. potash-feldspar, it may be safely concluded that there is about $5\frac{1}{2}$ per cent. potash. The permissible limit of potash in fire clay is 4 to 5 per cent., depending on the physical properties of the clay; while in paving brick the total of soda and potash combined may be as high as stated. The usual average of potash and soda combined as alkalies in Pennsylvania clays is from 1 to $3\frac{1}{2}$ per cent. In practical use the alkalies in kaolins, for highest quality of product, should not exceed 1 per cent.; in fire clays 1.50 per cent.; in pottery clays, 2 per cent.; and in brick clays, 2.65 per cent. An excess of potash-feldspar added to a white burning clay produces a creamy tint when burned. Potash deepens the color of ferruginous clay when burned.

Phosphorus in the form of phosphoric acid is also known to occur in some Pennsylvania clays, especially near iron ores. Generally the quantity is too small to have any marked deleterious effect; but, in a thorough analytical search, it ought to be included, particularly if the other combined constituents are less than 100 per cent.

Sulphur, if it occurs at all, is generally in such minute quantity that its effects need not be considered here, except in combination with magnesia, as heretofore stated.

Titanium is another element that is very common in Pennsylvania clays. For many years in analytical work on clays no attention seemed to be paid to it. In some of the clays of this State as much as 5 per cent. titanic oxide has been found. Careful experiments show that it has a tendency to give a bluish color to stone and other ware,—the larger the percentage, the more pronounced the color. When iron and titanium are both in clays, with an unusually high percentage of each, there is a tendency toward a dirty looking bluish black or greenish black color, depending upon the degree of temperature of the fire.

A small percentage of copper in the clays will also color the product a blackish green to a very dark blackish green.

The older clays of Pennsylvania some times contain small fractions of zirconia. If the clays also contain more than 2 per cent soda to not more than $\frac{1}{2}$ of 1 per cent. zirconium oxide, a light yellowish color will be given to the burned mass, graduating to an orange color as the percentages of the two elements increase.

A very small percentage of tungsten has also been revealed by complete quantitative analysis of some of the oldest Pennsylvania clays. If in the mass to the extent of $\frac{1}{2}$ of 1 per cent., and more than 3 per cent. soda, it will have a tendency to give a bluish green cast to brick burned at the usual temperature.

Magnetite occurs, if at all, in such small fractions that, as a general rule, it need not be taken into consideration.

There are other elements entering into Pennsylvania clays,—as, of the alkalis, the element lithia; also, ammonia; but the first is so rare, or the percentage thereof so small, that it need not be considered. The same may be said of ammonia, as it passes off as a vapor in the early burning stages. Chromium now and then occurs in southern Chester, southern Delaware, and southern Lancaster counties, but in such infinitesimally small quantities as to have little or no effect on the clay product.

Vanadium may also be found, which will show on the surface a green discoloration. This, if rubbed off, will appear again as long as the salt remains in the mass.

The elements entering into Pennsylvania clays have been considered in detail, on account of dissatisfaction at times relative to the output of promising clay beds. Before such beds are developed, the first wise step would be to have the bed or deposit carefully sampled, and the samples analyzed for all the constituents or elements mentioned above as of importance in the clay industry. Then steps should be taken to ascertain beyond peradventure the extent of the deposit or bed. Otherwise, serious loss may be entailed, by the erection of a plant, from an insufficient amount of crude material.

BURNING OF CLAYS.

In burning, much could be said about the proper temperature; but this will have to be taken up at length in a more extended report hereafter. Common bricks may not require a temperature of more than 1,850 degrees Fahrenheit; while other mixtures may call for 2,300 to 2,500 degrees Fahrenheit. The approximate temperature may be learned by the use of what is known as the Seger cones, two or more being placed in a kiln where they can be watched through a peep hole, at the same time not receiving the direct touch of the flame.

SHALE DEPOSITS.

Much of the stratified rock of Pennsylvania is commonly known as shale. These shale deposits were once the sedimentary clays, that became hard by pressure. Many of them were afterwards uptilted, and are now found in various positions. When ground up,

and mixed with water, a mass is produced similar to common clays. Sometimes it is plastic, and sometimes non-plastic. When placed in water, unground, shales do not usually fall to pieces as ordinary clay does. They may be highly refractory (requiring an extraordinary degree of heat to fuse), or extremely fusible (baked at a low temperature); but in either form they are commercially valuable, and much sought for in recent years for the manufacture of paving bricks. Some of the most refractory shales of Pennsylvania are being used in fire brick manufacture. Shale rocks form an enormous series of deposits in the northern tier of counties of this State; and these beds are numerous also farther south; and such have been operated successfully and profitably in some of the southern tier of counties, as in Adams. The Devonian shales seem to be best for vitrified bricks; the Salina shales make a good strong building brick, while the Medina make good pressed brick. Chemung shales, of the Devonian age, can be profitably operated for vitrified bricks in 35 counties of this Commonwealth, as follows: Bedford, Blair, Bradford, Cameron, Carbon, Centre, Clinton, Columbia, Crawford, Dauphin, Erie, Franklin, Fulton, Huntingdon, Juniata, Lebanon, Luzerne, Lycoming, McKean, Mifflin, Monroe, Montour, Northumberland, Perry, Pike, Potter, Schuylkill, Snyder, Somerset, Sullivan, Susquehanna, Tioga, Union, Warren and Wyoming. A sample of shale rock gave the following results: Silica, 63.11 per cent.; alumina, 23.11 per cent.; iron oxide, 1.79 per cent.; lime, 0.42 per cent.; magnesia, 0.70 per cent.; alkalies (potash and soda), 3.71 per cent.; moisture, 7.05 per cent.; total, 99.89 per cent.

Shales of the Upper and Lower Silurian ages are abundant in this Commonwealth, though few of even the outcroppings have been touched for brick making purposes. One of the most successful plants, operating in these ages of shales, is located in the southern part of Cumberland county, where a large industry has been established, and the product shipped to the eastern cities. The Upper or Lower Silurian shales occur in the following counties: Bedford, Berks, Blair, Carbon, Centre, Clinton, Columbia, Cumberland, Dauphin, Franklin, Fulton, Huntingdon, Juniata, Lebanon, Lehigh, Lycoming, Mifflin, Monroe, Montour, Northampton, Northumberland, Perry, Schuylkill, Snyder, Union and York, 26.

In addition to those mentioned, we have large areas underlaid with Mauch Chunk red shale, Hamilton shale, Clinton shale, and Hudson river shale, all results of sedimentary clay deposits.

DELAWARE RIVER VALLEY CLAYS.

Returning for a moment to notable clays in Pennsylvania, mammoth beds of good brick material are found under the Delaware river mud in Bucks, Delaware, Montgomery and Philadelphia coun-

ties. Independent of these deposits the abundance and excellence of the Delaware valley clay has made celebrated the Philadelphia house brick. The beautiful red color of the brick, due to a constant particular percentage of iron in the clay, contrasts strongly,—as Prof. J. P. Lesley, former State Geologist, says,—with the yellow bricks manufactured from the drift clay in other parts of America.

In summing up, it must not be forgotten that organic matter in clays affects the color as well as the plasticity, and also weakens the tensile strength. It affects the absorptive power as well. Most of these deterrents can be overcome by not heating the clay too rapidly for any purpose.

There are two other minerals which can be properly classified under the clays of Pennsylvania, viz: fullers' earth and slip clays.

FULLERS' EARTH.

Properly speaking, fullers' earth is not a clay, because it lacks plasticity; but, as Dr. Henrich Ries, of Ithaca, New York, has aptly said, in his report on the clays of New York, some of the material which is put on the market under this name, and does the work required of it as well as true fullers' earth, is ordinary plastic clay. Until the discovery of large bodies of fullers' earth in Florida, nearly all of this mineral used in the United States was imported from England. Now the southern product has come into general use. In Pennsylvania clays approaching fullers' earth in all its meritorious properties have been found in Centre, Lackawanna and Luzerne counties; but thus far no systematic plan has been adopted whereby to place the product upon the market. Fullers' earth was first used for fulling woolen cloth,—that is, cleansing it of its grease, but it is now extensively used for bleaching cotton seed oil, and for clarifying petroleum. There may be large deposits of this important earth in this State. In appearance it resembles clay; but in its properties it differs considerably, as it usually lacks plasticity, and also has the power of absorbing large quantities of greasy substances. When analyzed, it shows very little difference from ordinary clay, except that it is unusually high in combined water. It adheres strongly to the tongue, when tested in this manner; but some of our ordinary clays have the same property. The only reliable way of ascertaining whether a sample is fullers' earth or not, is by an actual test in the laboratory. Recently fullers' earth has had application in the manufacture of certain soaps made for removing grease and printers' ink stains.

SLIP CLAYS.

Slip clays are very impure and easily fusible clays. They are used for glazing stoneware, first being mixed with water to the consistency of cream, and the slip put on the ware by a brush. Some-

times the ware, before burning, is dipped into this slip mixture. To be of commercial value it is required that it shall fuse at a low temperature to form a glaze of a uniform color, and a glaze that will not crack or craze. Thus far, notwithstanding any claims that have been made, it has not appeared native in Pennsylvania in any considerable quantity. The main supply is now derived from New York and Missouri. Some of it is obtained from Michigan, some from Ohio, and some from Texas.

SAND LIME BRICK.

An important brick industry has been sprung up in Pennsylvania within the past five years,—the manufacture of artificial sand stone of sand lime brick. In some localities bricks thus made are finding favor with architects and builders, as well as the general public. The brick is made on the principle that a moist mixture of slaked lime and sand becomes hard on being exposed to air. Thus sand bricks are made with a lime silicate bond. In the manufacture treatment has to be made to suit the physical and chemical properties of the sand. On the other hand, full attention must be given to the kind of lime used. Some of the manufacturers expose the bricks after moulding, to the air for from 2 to 4 or 5 weeks before permitting them to be used in buildings. Analyses are made of the product after 8 hours' exposure in a steam cylinder, with a steam pressure in the atmosphere of from 120 to 150 pounds, maintained from 8 to 14 hours. Before using, the sand has to pass through a 20 mesh,—400 apertures to a square inch. Sharp sand is preferred, and a very high percentage of silica is essential.

Composition of the mixtures, two parts coarse sand—20 mesh—one part fine sand,—much finer than 20 mesh. When these parts have been thoroughly mixed, 10 per cent quick lime (CaO) is added. Then the mass is moulded into brick forms, 120 to 150 pounds per square inch steam pressure applied,—the temperature of the hardening cylinder being about 185 degrees Centigrade; and the bricks exposed to the steam from 8 to 14 hours. The moulding pressure applied is 15,000 pounds per square inch.

The claim is made that by this process, with pure lime (CaO), the tensile strength, taken immediately after hardening, will be over 400 pounds, and the crushing strength over 7,700 pounds; that after freezing the tensile strength will be over 370 pounds, and the crushing strength over 9,000 pounds. Percentage of water absorption not over 8.60.

When dolomitic limestone is used instead of the high grade calcium oxide stone, the tensile strength is considerably less, and also the crushing strength, while the percentage of water absorption may be $\frac{1}{2}$ of 1 per cent. more. Some makers claim that the sand is

improved by roasting; while others declare that the activity of the sand is not increased sufficiently thereby to justify the additional expense. Some manufacturers harden in steam at 150 pounds pressure for ten hours.

Some of the most successful manufacturers insist upon using sand containing at least 2 per cent of soluble silica. By the plan here given, somewhat modified in each individual case, many sand lime bricks are now being manufactured and sold in this Commonwealth, some of a pure white, some of a grayish white, and others of a red, yellow, blue, black, brown, green, or pink color.

Sand lime bricks are being successfully made by the use of the Mesozoic (or new red) sandstone, of Pennsylvania, for the silicate properties; also the Catskill rock, so plentifully found in Wayne county and other northeastern counties of the State. Catskill red shale is also being used successfully in Wayne county as a pipe clay.

COMPARISON OF CLAYS.

We append herewith a very few comparisons of Pennsylvania clays with some noted clays of the world. The list is merely suggestive, and is not intended to cover more than five varieties. Enough comparisons are given to convince any one that our clays generally are the equal of any found anywhere; and that it would well repay the Commonwealth of Pennsylvania to have published, for general circulation, a more extended report on so valuable a product. Such a document, wisely distributed, would not only lead to additional development, but to many more plants or manufactories for export, as well as for home consumption; and thus add materially to the wealth and prosperity of our Commonwealth.

KAOLINS.

Indianite (Cox), Indiana county.—Silica, 45.90; alumina, 40.39; lime, trace; alkalies, 0.40; water, etc., 13.26; total, 99.95 per cent.

English china clay (Finest in Cornwall).—Silica, 46.30; alumina, 39.70; ferrous oxide, 0.30; lime, 0.40; alkalies, 0.50; water, etc., 12.80; total, 100.00 per cent.

This English china clay is manufactured into fine white porcelain ware, etc., some much celebrated.

FIRE CLAYS.

Woodland, Clearfield county, Pa.—Silica, 45.29; alumina, 40.07; ferrous oxide, 1.07; lime, 0.26; magnesia, 0.08; alkalies, 0.48; water, etc., 13.18; total, 100.43 per cent.

Chinese porcelain clay (washed).—Silica, 50.50; alumina, 33.70; ferrous oxide, 1.80; magnesia, 0.80; alkalies, 1.90; water, etc., 11.20; total, 99.90 per cent.

The fine white porcelain ware made from this clay is among the best in the world.

Benezett, Elk county, Pa.—Silica, 45.292; alumina, 40.365; ferrous oxide, 0.510; lime, 0.037; magnesia, 0.015; alkalies, 0.136; water, 13.608; loss, 0.037; Total, 100.000 per cent.

POTTERY CLAYS.

Black Lick, Indiana county, Pa.—Silica, 64.83; alumina, 23.95; ferrous oxide, 0.90; titanic oxide, 0.88; lime, 0.11; magnesia, 0.187; alkalies, 0.296; water, etc., 9.39; total, 100.543 per cent.

Duchy of Nassau, Germany.—Silica, 64.80; alumina, 24.47; ferrous oxide, 1.72; lime, 1.08; magnesia, 0.87; alkalies, 0.20; water, etc., 6.72; total, 99.95 per cent.

Caernarvon township, Lancaster county, Pa.—Silica, 70.42; alumina, 21.00; iron oxide, 1.38; lime, 0.12; magnesia, 0.49; alkalies, 1.60; water, etc., 4.97; total, 99.94 per cent.

Duchy of Nassau, Germany.—Silica, 68.28; alumina, 20.00; ferrous oxide, 1.78; lime, 0.61; magnesia, 0.52; alkalies, 2.35; water, etc., 6.39; total, 99.93 per cent.

The second analysis of Duchy of Nassau clays is inserted here to show the variation of constituents of probably the best pottery ware clay in Europe.

BRICK CLAYS.

Stroudsburg, Monroe county, Pa.—Silica, 64.70; alumina, 28.39; iron oxide, 1.28; lime, 0.32; magnesia, 0.20; alkalies, 0.23; water, etc., 4.88; total, 100.00 per cent.

Titusville, Crawford county, Pa.—Silica, 51.01; alumina, 20.93; iron oxide, 6.831; titanic acid, 1.09; lime, 3.01; magnesia, 2.511; alkalies, 4.372; water, etc., 3.84; carbonic dioxide, (CO_2), 5.78; total, 99.374 per cent.

Sandy brick clay, London, England.—Silica, 66.68; alumina, 26.08; ferrous oxide, 1.26; lime, 0.84; magnesia, trace; water, etc., 5.14; total, 100.00 per cent.

SHALES.

Texas township, Wayne county, Pa.—Silica, 59.26; alumina, 19.877; iron oxide, 10.071; lime, 0.25; magnesia, 1.917; alkalies, 4.855; sulphur dioxide (SO_2), 0.012; phosphorus pentoxide (P_2O_5), 0.158; water, etc., 3.60; total, 100.00 per cent.

Stuarts, Randolph county, Missouri.—Silica, 56.86; alumina, 17.97; iron oxide, 9.35; lime, 1.67; magnesia, 1.12; alkalies, 2.61; water, etc., 941; total, 98.99 per cent.

The product of the Stuarts shales is said to be among the best.

HENRY C. DEMMING,
Consulting State Geologist.

Harrisburg, Pa., August 7, 1908.

STATISTICAL SUMMARY OF CLAY PRODUCTS IN PENNSYLVANIA.

BRICK, TILE, TERRA-COTTA, &C., 1905.

Aggregate value of products, \$16,713,606

BRICK—ALL KINDS.

Total quantity, thousands,.....	1,405,080	
Total value,	\$14,140,733	
Common brick, thousands,	809,154	
Value,	\$4,993,194	
Pressed front bricks, thousands,	71,514	
sands. Value,	\$635,039	
Ornamental brick, thousands,	54,627	
sands. Value,	\$675,108	
Vitrified paving brick, thousands,	91,646	
sands. Value,	\$941,588	
Fire brick, thousands,	356,666	
Value,	\$6,289,231	
Unclassified brick, thousands,	21,473	
sands. Value,	\$566,573	
Drain tile, value,		\$14,099
Sewer pipe, value,		809,374
Fire proofing material (inside work), value,		243,089
Architectural terra-cotta, value,		341,077
Roofing and floor tiling, value,		215,688
Other terra-cotta products, value,		873,482
Other clay products, value,		76,064

In the total value of these products Pennsylvania leads, and is followed by New York and Illinois, the value of whose product is each more than \$9,000,000, the clay products of Pennsylvania exceeding the highest by about \$7,000,000.

In brick products Pennsylvania exceeds that of New York, which is next nearest in value of product, almost two to one, the value of the New York products being \$7,791,254.

But the value of the common brick produced in New York is most \$2,000,000 greater than that of Pennsylvania, and the value of the product in Illinois of that kind of brick also exceeds that of Pennsylvania.

In the value of pressed brick and ornamental brick Pennsylvania leads all other states by several hundred thousand dollars more of products. The State also excels in the output of fire brick, having \$5,000,000 more to its credit than that of any other state.

Ohio produces more than three times the value of sewer pipe than Pennsylvania, which stands second in the list.

In architectural terra-cotta New Jersey leads, its output being four times greater than that of Pennsylvania.

But in roofing, floor and encaustic tile Ohio excels, its product being four times greater than that of Pennsylvania, whose value is \$215,688.00.

SUMMARIZED EXHIBIT OF MANUFACTURING STATISTICS.

In addition to the various statistics of industries, minutely gathered by this Bureau and presented in detail in pages following, there is here given a summarized compilation of all the manufacturing interests of the Commonwealth. Following the plan of the National Government, from whose report for 1905 these facts were taken, the industries are divided into the following fourteen classes:

Name of Industry.	Number of Plants.	Value of Product.
1. Food, &c.,	5,293	\$180,687,034
2. Textiles,	5,250	268,449,297
3. Iron, steel, &c.,	2,069	708,760,252
4. Lumber,	2,577	84,119,495
5. Leather, &c.,	455	89,163,801
6. Paper and printing,	2,479	82,554,968
7. Liquors, &c.,	688	43,477,293
8. Chemicals, &c.,	890	128,585,669
9. Clay, glass and stone,	1,257	71,775,382
10. Metals (not iron and steel),	545	40,419,343
11. Tobacco,	2,808	40,897,336
12. Land vehicles,	834	98,362,702
13. Shipbuilding,	33	10,326,592
14. Miscellaneous,	1,317	107,962,168

The aggregates of the foregoing indicate the following:

Total number of establishments,	23,495
Capital invested,	\$1,995,836,988
Salaried officials,	66,081

Salaries received,	\$73,269,007
Wage earners,	763,282
Men,	594,487
Women,	134,344
Minors (under 16 years),	34,451
Wages earned,	\$367,960,890
Cost of material used,	\$1,142,942,707
Miscellaneous expenses,	\$167,267,247
Value of products, including repairing,	\$1,955,451,332

There were in all 13,615 establishments owned by individuals, or about 58 per cent. of the entire number. But they employed only 14 per cent. of the wage earners, and paid 12 per cent. only of the wages. And the value of the products of these individual concerns was little less than 12 per cent. of the entire product given above. All other establishments, wage earners and products were those of corporations.

Compared with New York, the leading manufacturing state of the Union, that Commonwealth had 13,699 more establishments or working places, but Pennsylvania lacked only \$35,622,527 investment as capital to equal that of New York. In the combined value of products New York was greater by \$532,804,247, but Pennsylvania excelled in the products of the following groups of industries:

Leather,	\$791,515
Clay, glass and stone,	\$22,681,161
Land vehicles,	\$51,498,566
Iron and steel,	\$494,109,872

In most instances the greater products were made not because the Pennsylvania manufacturers had more shops, but because their establishments were larger.

These large establishments had the effect of building up new communities or of increasing the population of many other cities and boroughs. As an advantageous consequence more than one-half the operations were carried on in the following fifty-four localities, and the table shows also which cities are pre-eminently devoted to manufacturing:

Name of Town.	Number of establishments.	Capital invested.	Wage earners.	Manufactured product.
Allegheny,	385	\$58,000,000	15,000	\$46,000,000
Allentown,	259	14,000,000	9,000	17,000,000
Altoona,	73	11,000,000	10,000	14,000,000
Beaver Falls,	42	6,500,000	2,200	5,000,000
Braddock,	39	3,300,000	1,200	4,000,000
Bradford,	30	3,300,000	1,500	3,200,000
Butler,	48	10,000,000	2,100	7,000,000
Carbondale,	32	2,700,000	1,300	2,800,000
Carlisle,	48	1,500,000	1,300	2,000,000
Chambersburg,	47	1,000,000	800	1,100,000
Chester,	131	22,000,000	7,000	17,000,000
Columbia,	44	3,000,000	3,000	4,000,000
Danville,	31	1,600,000	1,600	2,800,000
DuBois,	34	3,300,000	1,000	2,500,000
Dunmore,	15	1,000,000	1,000	1,500,000
Duquesne,	15	16,600,000	2,700	28,000,000
Easton,	99	5,000,000	3,300	5,600,000
Erie,	267	24,000,000	9,100	19,000,000
Harrisburg,	177	16,000,000	8,400	17,000,000
Hazleton,	62	2,500,000	1,400	2,200,000
Homestead,	27	732,000	300	700,000
Johnstown,	82	59,600,000	7,000	29,000,000
Lancaster,	300	12,400,000	9,000	15,000,000
Lebanon,	103	8,000,000	4,400	7,000,000
McKeesport,	75	16,300,000	9,000	23,000,000
Mahanoy,	29	500,000	250	432,000
Meadville,	52	1,800,000	1,300	2,000,000
Mt. Carmel,	21	630,000	250	730,000
Nanticoke,	12	314,000	230	358,000
New Castle,	72	18,500,000	57,000	29,400,000
Norristown,	84	5,300,000	3,500	6,000,000
Oil City,	37	4,700,000	1,600	3,200,000
Philadelphia,	7,087	520,200,000	229,000	591,400,000

SUMMARIZED EXHIBIT OF MANUFACTURING STATISTICS—Continued.

Name of Town.	Number of establishments.	Capital invested.	Wage earners.	Manufactured product.
Phoenixville,	31	7,500,000	2,900	5,600,000
Pittsburgh,	1,200	202,500,000	56,300	165,500,000
Pittston,	40	1,614,000	800	1,500,000
Plymouth,	25	684,000	1,000	903,000
Pottstown,	77	6,500,000	3,500	8,200,000
Pottsville,	79	3,300,000	2,000	6,000,000
Reading,	404	27,500,000	18,300	31,000,000
Scranton,	253	19,200,000	11,000	20,500,000
Shamokin,	43	1,100,000	900	1,500,000
Sharon,	36	4,900,000	1,600	4,800,000
Shenandoah,	30	740,000	170	600,000
South Bethlehem,	46	18,000,000	6,000	15,300,000
Stegilton,	18	18,000,000	4,700	15,700,000
Sunbury,	33	1,130,000	1,400	2,600,000
Titusville,	62	3,800,000	1,100	3,300,000
Warren,	69	5,900,000	1,300	6,000,000
West Chester,	35	1,700,000	850	2,125,000
Wilkes-Barre,	131	12,000,000	6,000	11,200,000
Wilkesburg,	30	427,000	184	500,000
Williamsport,	117	15,400,000	5,500	12,000,000
York,	233	15,140,000	8,500	14,300,000
Total,	12,860	\$1,232,311,000	540,034	\$1,238,048,000

INDUSTRIAL ACCIDENTS.

While the industrial life of the State shows improvement in the matter of the better sanitary conditions of the mines and workshops, where its vast army of labor is employed, and while the general physical condition of nearly every class of employes is now much better than it was a dozen years ago, it is painful to record the fact that there are an appalling number of fatal accidents yearly, equaling nearly two regiments of men; and if the four-fold more of those injured in a non-fatal manner were added the results might be likened to the removal of an entire division of men from actual service.

As reported to this Bureau, these accidents are very plainly

classified in the appended table, compiled from statistics secured in 1907:

	Fatal accidents.	Non-fatal accidents.
Anthracite mining,	607	1,746
Bituminous, mining,	437	1,678
Iron and steel industry,	176	1,179
Comparative series of industries,	118	830
Pig iron industry,	72	623
Textile industry in Philadelphia,	12	82
Tin Plate manufacture,		2
Total,	1,422	6,140

Manifestly there should be an improvement of these conditions if it is not possible to entirely remove their causes. In a strenuous age like the present, when the spirit of commercialism is such a predominating or influential factor, it may not be possible to correct all known existing evils, but the preservation of life and limb should never be over-shadowed by the elements entering into the mad rush for monetary reward.

Improvement should be made whenever it is within the bounds of attainment. Unskilled and careless labor should be debarred from all occupations of unusual risk. Child labor should under no circumstances be permitted in dangerous places, where persons of more mature judgment might be employed. Every safeguard which experience and inventive skill can suggest should be used to minimize the dire disasters which occur almost daily, and which can or might be avoided by proper care or more considerate methods.

It is the boast of European countries that they greatly excel us in these particulars, and that a civilization which will permit the continuance of the evils attributed to us lacks that very important national quality—a just and proper estimate of the value of human life. It is to be hoped that future action on the part of our law-makers and the helpful co-operation of both employers and employes will very materially reduce the accidents connected with our industries so that, in time, these evils may be wholly or approximately abated.

PART TWO

BUREAU OF STATISTICS.

MINING AND MANUFACTURING.

1907.



MINING AND MANUFACTURING, 1907.

PIG IRON PRODUCTION IN PENNSYLVANIA FOR 1907.

Capital invested,	\$143,859,428
Tonnage production, gross tons,	11,311,985
Market or realized value of production,	\$206,443,155
Value of basic material (ore, scrap or cinder only), fuel, limestone, management, office help, and all other ex- penses not considered,	\$100,308 832
Average cost of basic material per ton,	\$8 87
Average number of days in operation,	326
Average number of working people employed as rela- tive to days in operation,	18,960
Males,	18,949
Minors,	11
<hr/>	
Aggregate wages paid to these workmen,	\$12,675,001
Males,	\$12,671,854
Minors,	3,147
<hr/>	
Average yearly earnings,	\$668 51
Males,	\$668 73
Minors,	286 09
<hr/>	
Average daily wage,	\$2 05
Males,	\$2 05
Minors,	88
<hr/>	
Cost of labor per ton,	\$1 10
Average realized value per ton,	\$18 25
Tonnage per man per day,	1.8
Average value of production for each employe,	\$10,888 35

COMPARISON OF PIG IRON PRODUCTION, 1907, WITH YEARS AS FOLLOWS:

Years.	Totals.	Increase (+) or decrease (-) as compared with preceding year.		Increase (+) or decrease (-) 1907 as compared with 1896.	
		Amounts.	Percentage.	Amounts.	Percentage.
GROSS TONS PRODUCED.					
1896,	4,026,350	.....	.....	.....	.....
1901,	7,364,295	+3,337,945	+82.9	.....	.....
1906,	11,244,292	+3,879,997	+52.7	.....	.....
1907,	11,311,985	+67,693	+6	+7,285,635	+180.9
VALUE OF PRODUCTION.					
1896,	\$45,172,039	\$	.....	.....	.....
1901,	106,883,000	+61,710,961	+136.6	.....	.....
1906,	187,909,541	+81,026,541	+75.8	.....	.....
1907,	206,443,155	+18,533,614	+9.9	+161,271,116	+357.0
AGGREGATE COST OF BASIC MATERIAL.					
1896,	\$26,251,420	\$	.....	\$	.....
1901,	53,511,173	+27,259,753	+103.8	.....	.....
1906,	92,507,500	+38,996,327	+72.9	.....	.....
1907,	100,308,832	+7,801,332	+8.4	+74,057,412	+282.1
NUMBER OF WORKMEN EMPLOYED.					
1896,	11,580	.....	.....	.....	.....
1901,	14,749	+3,169	+27.4	.....	.....
1906,	18,637	+3,888	+26.4	.....	.....
1907,	18,960	+323	+1.7	+7,380	+63.4
AGGREGATE AMOUNT OF WAGES PAID.					
1896,	\$4,589,165	\$	.....	\$	.....
1901,	8,646,479	+4,057,314	+88.4	.....	.....
1906,	12,063,556	+3,417,077	+39.5	.....	.....
1907,	12,675,001	+611,445	+5.1	+8,085,836	+176.2
AVERAGE YEARLY EARNINGS.					
1896,	\$396 30	\$	.....	\$	.....
1901,	586 24	+189 94	+47.9	.....	.....
1906,	647 29	+61.05	+10.4	.....	.....
1907,	668 51	+21.22	+3.3	+272 21	+68.7
AVERAGE DAILY WAGE.					
		Cts.		Cts.	
1896,	\$1 37	.....	.....	.....	.....
1901,	1 85	+48	+35.0	.....	.....
1906,	1 93	+08	+4.3	.....	.....
1907,	2 05	+12	+6.2	+68	+49.6

**PRODUCTION OF PIG IRON BY COUNTIES AND RELATIVE
PER CENT., 1907.**

Counties.	Gross tons.	Per cent.
Allegheny,	5,438,232	48.075
Mercer,	1,158,725	10.243
Cambria,	729,737	6.451
Lawrence,	652,449	5.768
Lehigh,	410,762	3.631
Montgomery,	397,823	3.517
Dauphin,	364,114	3.219
Northampton,	314,174	2.777
Lebanon,	305,097	2.697
Washington,	294,538	2.604
Berks,	221,753	1.960
Bedford,	137,406	1.215
Beaver,	134,870	1.192
Indiana,	89,592	.792
Carbon,	88,580	.782
Fayette,	81,948	.725
Clearfield,	78,825	.697
Westmoreland,	75,123	.664
Centre,	72,395	.640
Jefferson,	68,413	.605
Armstrong,	60,041	.530
Cameron,	46,215	.409
Erie,	43,633	.386
Huntingdon,	33,767	.299
Perry,	13,208	.117
Union,	505	.005
Total,	11,311,985	100.00

PIG IRON SUPPLEMENT—LABOR.

STATISTICAL SUMMARY OF EMPLOYES, THEIR NATIONALITY, NUMBER OWNING THEIR OWN HOMES, AVERAGE HOUSE RENT PER ANNUM, HIGHEST AND LOWEST HOUSE RENT PAID, AND AVERAGE HOURS PER WEEK.

Total number of firms or corporations,	64
Total number of firms or corporations reporting,	56
Number of firms or corporations not reporting,	8
Total number of furnaces in blast,	82
Number of days lost for general repairs,	1,061
Number of employes owning their homes,	629
Highest rent per annum given,	\$168
Lowest rent per annum given,	\$24
Average rent paid per annum,	\$79
Average working hours per week,	96
Establishments working 168 hours per week,	19
Establishments working 150 hours per week,	1
Establishments working 84 hours per week,	27
Establishments working 78 hours per week,	1
Establishments working 77 hours per week,	2
Establishments working 72 hours per week,	1
Establishments working 70 hours per week,	3
Establishments working 60 hours per week,	2
Number of firms reporting not idle during year,	5
Number of days lost for various causes,	443
Number of days lost blowing out furnaces,	130

PIG IRON INDUSTRY—NATIONALITY.

Total number of employes and their nationality as reported,	10,844
Americans,	2,690
Italians,	747
Swedes,	8
Hungarians,	786
Mixed Foreigners,	2,272
Polanders,	246
Welsh,	17
Negroes,	267
English,	119
Croatians,	252
Irish,	263
Austrians,	435
Hebrews,	4
Howats,	180
Magyars,	11
Roumanians,	55
Slavonians,	1,369
Greeks,	8
Lithuanians,	1
Scandinivans,	1
Germans,	207
Scotch,	1

ACCIDENTS IN THE PIG IRON INDUSTRY.

Number of accidents "fatal,"	72
Number of accidents "non-fatal,"	623

STEEL PRODUCTION FOR 1907.

MILLS THAT DO NOT ROLL OR FINISH THEIR PRODUCT.

Capital invested,	\$11,480,124
Production, steel ingots and castings, gross tons,	220,422
Bessemer (acid),	4,032
Open hearth (acid),	188,944
Open hearth (basic),	23,923
Crucible and other processes,	3,523
Value of production,	\$17,237,294
Average number of days in operation,	298
Average number of working people employed,	9,316
Males,	9,265
Minors,	51
Aggregate wages paid to these working people,	\$6,079,036
Males,	\$6,069,093
Minors,	9,943
Average yearly earnings per each employe,	\$652 54
Males,	\$655 05
Minors,	194 96
Average daily wage,	\$2 19
Males,	\$2 20
Minors,	65
Average value per ton,	\$78 21
Average value produced by each employe,	\$1,850 29

IRON AND STEEL PRODUCTION FOR 1907.

STEEL WORKS THAT HAVE ROLLING MILLS AND MAKE A FINISHED PRODUCT.

Capital Invested,	\$275,644,115
Total production (gross tons),	21,728,655

*Classified as follows:

Bessemer steel,	4,345,399	
Open Health (acid) steel,	857,640	
Open Health (basic) steel,	6,799,492	
Crucible and other processes,	87,083	
	<hr/>	12,089,614
Muck and scrap bar,	2,249	
Slabs, blooms, billets, tin plate bar, sheet bar, etc.,	2,693,713	
Structural shapes,	1,255,565	
Rails,	1,323,739	
Plates and sheets,	2,100,293	
Other rolled products, such as skelp, wire and spike rods, spike bars, hoops, bands, etc.,	2,263,482	
	<hr/>	9,639,041
Value of production,		\$366,566,813
Average number of days in operation,		313
Average number of working people employed during the year, ..		83,492
Males,	82,964	
Minors,	528	
	<hr/>	
Aggregate wages paid to workmen employed,		\$59,857,420
Males,	\$59,706,093	
Minors,	151,327	
	<hr/>	
Average yearly earnings,		\$717 18
Males,	\$719 66	
Minors,	286 57	
	<hr/>	
Average daily wage,		\$2 29
Males,	\$2 30	
Minors,	91	
	<hr/>	

*In giving the total production, part of the tonnage is twice counted. The steel went into the rolled product, but to show the people employed and wages paid it is necessary to give the total tonnage of the mills.

STEEL PRODUCTION IN 1907 AS COMPARED WITH YEARS AS FOLLOWS:

Years.	Gross Tons.	Increase (+) or decrease (-) as compared with preceding year.		Increase (+) or decrease (-) 1907 as compared with 1896.	
		Amounts.	Percentage.	Amounts.	Percentage.
BESSEMER STEEL.					
1896,	2,292,814	.....	.....	.....	.....
1901,	4,319,144	+2,026,330	+88.4	.....	.....
1906,	4,468,468	+149,324	+3.4	.....	.....
1907,	4,345,399	-123,069	-2.7	+2,052,585	+89.5
OPEN HEARTH STEEL.					
1896,	1,009,608	.....	.....	.....	.....
1901,	3,554,828	+2,545,220	+252.1	.....	.....
1906,	7,226,124	+3,671,296	+103.3	.....	.....
1907,	7,657,132	+431,008	+6.0	+6,647,524	+658.4
CRUCIBLE STEEL AND OTHER PROCESSES.					
1896,	43,107	.....	.....	.....	.....
1901,	85,748	+42,641	+98.9	.....	.....
1906,	90,807	+5,059	+5.9	.....	.....
1907,	87,083	-3,724	-4.1	+43,976	+102
TOTAL STEEL PRODUCTION.					
1896,	3,345,529	.....	.....	.....	.....
1901,	7,959,720	+4,614,191	+137.9	.....	.....
1906,	11,785,399	+3,825,679	+48.0	.....	.....
1907,	12,089,614	+304,215	+2.6	+8,744,085	+261.4

PRODUCTION OF STEEL BY COUNTIES IN 1907 AND RELATIVE PER CENT.

Counties.	Gross tons.	Per cent.
Allegheny,	6,444,804	53.309
Mercer,	1,068,605	8.839
Cambria,	1,014,553	8.392
Chester,	668,416	5.529
Dauphin,	656,395	5.429
Lawrence,	585,000	4.839
Washington,	454,122	3.756
Montgomery,	429,562	3.553
Westmoreland,	265,682	2.198
Northampton,	162,648	1.345
Mifflin,	109,153	.903
Philadelphia,	95,000	.786
Schuylkill,	87,722	.726
Beaver,	33,244	.275
Lycoming,	9,015	.074
Berks,	5,271	.044
Crawford,	422	.003
Total,	12,089,614	100.00

IRON AND STEEL PRODUCTION ROLLED INTO FINISHED FORM, BY MILLS THAT DO NOT HAVE STEEL PLANTS, IN PENNSYLVANIA, 1907.

Capital invested,	\$70,717,305
Total production, (gross tons),	3,030,191
Classified as follows:	
Muck and scrap bar,	138,150
Slabs, blooms, billets, tin plate bars, sheet bars, etc.,	113,387
Structural shapes,	3,935
Cut nails and spikes,	29,279
Plates and sheets,	80,446
Other rolled products (such as wire and spike rods, splice bars, hoops, bands, etc.),	2,664,994
<hr/>	
Value of production,	\$137,600,412
Average number of people employed during the year, ..	54,218
Males,	53,034
Females,	398
Minors,	786
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Aggregate wages paid to these working people,	\$31,555,964
Males,	\$31,220,474
Females,	127,084
Minors,	208,406
<hr/>	
Average number of days in operation,	275
Average yearly earnings,	\$582 02
Males,	\$588 69
Females,	319 31
Minors,	265 15
<hr/>	
Average daily wage,	\$2 12
Males,	\$2 14
Females,	1 16
Minors,	96
<hr/>	

COMBINED PRODUCTION OF STEEL WORKS AND ROLLING MILLS THAT MAKE A ROLLED PRODUCT, 1907.

Total capital invested,	\$346,361,420
Total production, (gross tons),	12,953,047
Classified as follows:	
Muck and scrap bar,	140,399
Slabs, blooms, billets, tin plate bars, sheet bars, etc.,	2,807,100
Rails,	1,323,739
Iron and steel structural shapes,	1,259,500
Cut nails and spikes,	29,279
*Plate and sheets including black plate for tinning made by the black plates works,	2,464,554
Other rolled products such as wire and spike rods, splice bars, hoops, bands, etc.,	4,928,476
<hr/>	
Total value of production, not including the value of the black plate works,	\$504,167,225
Average number of working people employed, exclusive of employes in black plate works,	137,712
Males,	135,998
Females,	398
Minors,	1,316
<hr/>	
Aggregate amount of wages paid to these working peo- ple,	\$91,413,384
Males,	\$90,926,567
Females,	127,084
Minors,	359,733
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Average number of days in operation,	298
Average yearly earnings,	\$663 80
Males,	\$668 59
Females,	319 31
Minors,	273 35
<hr/>	
Average daily wage,	\$2 23
Males,	\$2 25
Females,	1 07
Minors,	92
<hr/>	
Average value of production per each employe,	\$3,661 03
Average value per ton,	\$43 20
Cost of labor per ton,	\$7 83

*Includes 283,815 tons of black plate and other sheets made by the black plate works.

COMPARISON OF ROLLED IRON AND STEEL PRODUCTION 1907 WITH YEARS AS FOLLOWS:

Years.	Totals.	Increase (+) or decrease (-) as compared with preceding year.		Increase (+) or decrease (-) 1907 as compared with 1896.	
		Amounts.	Percentage.	Amounts.	Percentage.

CAPITAL.

1896,	\$123,951,317	\$	.....	\$	.....
1901,	232,108,715	+108,157,398	+87.2	.....	.....
1906,	345,563,126	+113,454,411	+48.9	.....	.....
1907,	346,361,420	+798,294	+0.2	+222,410,103	+179.4

IRON AND STEEL RAILS (GROSS TONS).

1896,	674,651	.....	.....	.....	.....
1901,	1,406,532	+731,881	+108.5	.....	.....
1906,	1,300,112	-106,420	-7.6	.....	.....
1907,	1,323,739	+23,627	+1.8	+649,088	+96.2

PLATES AND SHEETS (GROSS TONS).

1896,	630,861	.....	.....	.....	.....
1901,	1,590,502	+959,641	+152.1	.....	.....
1906,	2,643,499	+1,052,997	+66.2	.....	.....
1907,	2,464,554	-178,945	-6.8	+1,833,693	+290.6

CUT NAILS AND CUT SPIKES (GROSS TONS).

1906,	28,840	.....	.....	.....	.....
1901,	37,349	+8,509	+29.5	.....	.....
1906,	29,850	-7,499	-20.1	.....	.....
1907,	29,279	-571	-1.2	+439	+1.5

AVERAGE NUMBER OF WORKMEN EMPLOYED.

1896,	53,573	.....	.....	.....	.....
1901,	86,086	+32,513	+60.7	.....	.....
1906,	128,209	+42,123	+48.9	.....	.....
1907,	137,712	+9,503	+7.4	+84,139	+157.1

AGGREGATE AMOUNT OF WAGES PAID.

1896,	\$23,832,628	\$	.....	\$	.....
1901,	53,334,787	+29,502,159	+123.8	.....	.....
1906,	82,623,830	+29,289,043	+54.9	.....	.....
1907,	91,413,384	+8,789,554	+10.6	+67,580,756	+283.6

COMPARISON OF ROLLED IRON AND STEEL PRODUCTION 1907 WITH YEARS AS FOLLOWS:

Years.	Totals.	Increase (+) or decrease (-) as compared with preceding year.		Increase (+) or decrease (-) 1907 as compared with 1896.	
		Amounts.	Percentage.	Amounts.	Percentage.

AVERAGE YEARLY EARNINGS.

1896,	\$444 89	\$	.....	.....	.....
1901,	619 55	+174 66	+39.2	.....	.....
1906,	644 45	+24 90	+4.0	.....	.....
1907,	663 80	+19 35	+3.0	+218 91	+49.2

AVERAGE DAILY WAGE.

1896,	\$1 77	Cts.	.....	Cts.	.....
1901,	2 21	+44	+24.9	.....	.....
1906,	2 13	-08	-3.6	.....	.....
1907,	2 23	+10	+4.5	+46	+26.0

PRODUCTION OF ROLLED IRON AND STEEL IN 1907 BY COUNTIES AND RELATIVE PER CENT.

Counties.	Steel works—Rolled product—Tonnage.	Rolling mills—Rolled product—Ton- nage.	Black plate works— Black plate—Ton- nage.	Total production— Gross tons.	Per cent.
Allegheny,	5,295,764	1,338,098	55,972	6,739,834	52.033
Mercer,	684,114	180,344	43,127	907,585	7.007
Cambria,	682,442	.....	.....	682,442	5.268
Dauphin,	557,019	87,114	5,488	649,621	5.015
Lawrence,	531,260	25,361	85,375	641,996	4.956
Washington,	419,551	187,508	17,139	624,198	4.819
Montgomery,	379,788	169,224	.....	549,012	4.238
Chester,	454,280	40,875	.....	495,155	3.823
Westmoreland,	245,754	152,735	75,919	474,408	3.662
Berks,	14,020	172,212	.....	186,232	1.438
Lebanon, .....	.....	113,230	.....	113,230	.874
Mifflin,	81,112	24,722	.....	105,834	.817
Philadelphia,	67,462	34,841	.....	102,303	.790
Lehigh, .....	.....	95,603	.....	95,603	.738
Lancaster, .....	.....	78,848	.....	78,848	.609
Northampton,	74,419	.....	.....	74,419	.575
Schuylkill,	70,090	3,400	.....	73,490	.567
Montour, .....	.....	55,463	.....	55,463	.428
Armstrong,	31,969	17,040	.....	49,009	.378
Northumberland, .....	.....	48,871	.....	48,871	.377
Columbia, .....	.....	36,650	.....	36,650	.283
Beaver,	24,389	.....	.....	24,389	.188
Lackawanna, .....	.....	24,339	.....	24,339	.188
Lycoming,	14,642	6,778	.....	21,420	.165
Venango, .....	.....	17,410	.....	17,410	.135
Ferry, .....	.....	16,876	.....	16,876	.131
Blair, .....	.....	14,753	.....	14,753	.114
Indiana,	10,719	.....	.....	10,719	.083
Clearfield, .....	.....	10,421	.....	10,421	.080
Bucks, .....	.....	8,073	.....	8,073	.063
Fayette, .....	.....	7,604	.....	7,604	.059
Erie, .....	.....	4,980	.....	4,980	.038
York, .....	.....	2,961	.....	2,961	.023
Centre, .....	.....	2,613	.....	2,613	.020
Luzerne, .....	.....	1,244	.....	1,244	.010
Greene, .....	.....	.....	795	795	.006
Crawford,	247	.....	.....	247	.002
Totals,	9,639,041	3,030,191	283,815	12,953,047	100

IRON AND STEEL SUPPLEMENT—LABOR.

Statistical summary of employes, their number, nationality, number owning their homes, average rent per annum, average number of working hours per week and number affected by strike or lockout.

Total number of companies,	203
Number of companies reporting,	170
Number of companies, not reporting nationality,	33
Number days lost by strike,	134
Number of employes affected by strike,	800
Number of days lost by other causes than strike,	4,001
Number of employes who own their own homes,	4,912
Highest rent per annum given,	\$270
Lowest rent per annum given,	\$24
Average rent paid per annum,	\$134
Total number of employes and their nationality as reported,	72,975
Americans,	34,898
Germans,	3,127
English,	1,002
Irish,	2,805
Hungarians,	2,064
Italians,	2,550
Polanders,	3,663
Swedes,	254
Austrians,	3,331
Greeks,	159
Welsh,	228
Scotch,	222
Slavish,	3,408
Croatians,	881
Bohemians,	48
French,	69
Foreigners (nationality not given),	10,021
Negroes,	397
Horvats,	1,118
Finlanders,	57
Russians,	786
Jews,	75
Roumanians,	549
Scandinavians,	216
Maygars,	690
Lithuanians,	209
Macedonians,	17

Danes,	2
Servians,	116
Canadian,	6
Arabian,	1
Norwegian,	5
Portuguese,	1
33 Companies do not report the nationality of employees.	

DATES ON WHICH LOCKOUT BEGAN AND ENDED.

Number 104. Report lockout began November 1st, ended 9th. Number days lost, 6. Number people affected, 23. Successful, not arbitrated. Question: Advance of wages. Complained because two men were required to do what three had formerly done.

DATES ON WHICH STRIKE BEGAN AND ENDED.

Number 30. Reports strike began April 30th, not yet ended. Number of days lost, 90. Number of people affected, 160. Question: Higher wages and shorter days.

Number 4c. Reports strike beginning April 16, ended April 22. Number of days lost, 6. Number of people affected, 150. Question in dispute: Wage increase of 20 cents per day. Not granted.

Number 59. Reports strike, days lost, 15. Number of people affected, 160. Question: Higher wages.

Number 76. Reports strike beginning July 1, ending July 15. Number days lost, 15. Number people affected, 225. Strike was successful. Question: Puddlers demanded Pittsburg or western wage scale price.

Number 172. Report strike beginning May 27, ending June 4. Number days lost, 8. Number people affected, 96. Strike not successful, not arbitrated. Question: For advance in wages, not granted, men returned to work.

Number 179. Report strike beginning May 1, secured injunction final hearing not called. Number people affected, 9. Question: Demanded 40 cents per day minimum rate.

CAUSES GIVEN FOR DAYS LOST IN IRON AND STEEL INDUSTRY.

Number 33. Report idle account floods in early part spring, last of year business depression,	37 Days
Number 105. Report idle repairing and holidays,	29 Days.
Numbers A. B. C. D and E.3. Report idle in the five plants owned by one company 11 months lack of orders.	
Numbers A. B. C. E. F. H. I. J. and 5. Report idle in the 9 plants owned by one company account high water and business depression,	292 Days.
Numbers A. B. and C.8. Report idle in the plants owned by one company, business depression,	225 Days.
Number 9. Report idle lack of orders,	24 Days.
Number 13. Report idle account high water, etc.,	84 Days.
Number 39. Report idle week of July 4, and Thanksgiving week, shut down indefinitely December 7.	
Number 51. Report idle June 29 to July 8 and shut down December 11, business depression,	23 Days.
Number 59. Report idle lack of material,	50 Days.
Number 75. Report idle short of stock, high water, repairs,	100 Days.
Number 88. Report idle five weeks,	30 Days.
Number 115. Report idle January 8 to April 3, account fire, on week business depression,	103 Days.
Number 131. Report idle holidays, repairs, dull trade,	54 Days.
Number 136. Report idle five weeks, holidays and business depression,	30 Days.
Number 158. Report idle three months first of year, reconstructing, three weeks, business depression, ...	105 Days.
Number 161. Report idle making improvements,	88 Days.
Number 162. Report idle lack of orders,	73 Days.
Number 178. Report idle short of coal and material, ..	10 Days.
Number 184. Report idle repairing and inventory, ...	96 Days.
Number 6 A.6 and B.6. Report idle,	69 Days.
Number 10. Report idle repairing and holidays,	23 Days.
Number 43. Report idle one month inventorying,	38 Days.
Number 71. Report idle,	70 Days.
Number 104. Report idle lack of specifications on orders,	41 Days.

25 firms report idle account business depression,.....	1,186 Days.
9 firms report idle account repairs and business depression,	609 Days.
11 firms report idle account of repairs,	139 Days.

NUMBER OF ACCIDENTS IN IRON AND STEEL INDUSTRY.

Number of accidents non-fatal,	1,179
Number of accidents fatal,	176

TIN PLATE—BLACK PLATE WORKS.

PRODUCTION OF TIN PLATE IN PENNSYLVANIA IN 1907.

Number of plants in operation,	16
Total number of hot mills,	168
Total number of cold mills,	168
Total number of tin and terne sets,	272
Daily capacity of black plate (pounds),	3,318,700
Daily capacity of tin and terne plate (pounds),	3,082,600
Capital invested (realty, machinery, business, etc.),	\$8,198,605
Average number of days in operation (a plant considered in operation when one or more hot mills worked),	197
Average number of working people employed,	7,365
Males,	7,087
Females,	252
Minors,	26
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Aggregate amount of wages paid,	\$5,319,694
Males,	\$5,233,223
Females,	78,962
Minors,	7,509
<hr/>	
Average yearly earnings,	\$722 29
Males,	\$752 54
Females,	313 34
Minors,	288 81
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Average daily wage,	\$3 67
Males,	\$3 82
Females,	1 59
Minors,	1 47
<hr/>	
Production of black plate for tinning (pounds),	633,902,496
Production of black plate for tinning but not tinned (pounds),	72,739,788
Production of tin plate (pounds),	546,082,633
Production of terne plate (pounds),	15,080,075
Production of sheets and plates other than black plate for tinning (pounds),	1,842,270
Market value of tinned production,	\$20,190,182
Market value of terned production,	\$797,930

Market value of black plate, but not tinned,	\$1,992,477
Market value of sheets and plates other than black plate,	\$55,147
Value of entire production tinned and untinned,	\$22,980,589
Average value per hundred pounds of tinned and tinned production,	\$3 95
Average value per ton of 2,000 pounds of black plate not tinned,	\$29 80
Average value of production for each employe,	\$3,127 73

TIN PLATE—BLACK PLATE WORKS.

COMPARISON OF TOTALS FOR THE YEARS 1896, 1901, 1906 AND 1907.

Years.	Totals.	Increase (+) or decrease (-) as compared with preceding year.		Increase (+) or decrease (-) 1907 as compared with 1896.	
		Amounts.	Percentage.	Amounts.	Percentage.

CAPITAL INVESTED.

1896,	\$3,627,275	\$	.....	\$	.....
1901,	10,525,000	+6,897,725	+190.2	.....	.....
1906,	8,301,716	-2,223,284	-21.1	.....	.....
1907,	8,198,606	-103,111	-1.2	+4,571,330	+126.8

POUNDS OF BLACK PLATE PRODUCED AND TINNED.

1896,	97,814,762	.....	.....	.....	.....
1901,	377,430,000	+279,615,238	+285.9	.....	.....
1906,	657,147,729	+279,717,729	+74.1	.....	.....
1907,	561,162,708	-95,985,021	-14.6	+463,347,946	+473.7

POUNDS OF BLACK PLATE PRODUCED AND NOT TINNED.

1896,	60,491,728	.....	.....	.....	.....
1901,	58,198,000	-2,293,728	-3.8	.....	.....
1906,	27,257,798	-30,940,202	-53.2	.....	.....
1907,	72,739,788	+45,481,990	+166.9	+12,248,060	+20.2

TOTAL PRODUCTION OF BLACK PLATE IN POUNDS TINNED AND UNTINNED.

1896,	158,306,490	.....	.....	.....	.....
1901,	435,628,000	+277,321,510	+175.2	.....	.....
1906,	684,405,527	+248,777,527	+57.1	.....	.....
1907,	633,902,496	-50,503,031	-7.4	+475,596,006	+300.4

TIN PLATE—Continued.

Years.	Totals.	Increase (+) or decrease (-) as compared with preceding year.		Increase (+) or decrease (-) 1907 as compared with 1896.	
		Amounts.	Percentage.	Amounts.	Percentage.

MARKET VALUE OF TIN AND TERNE PLATE.

1896,	\$3,157,699	\$	.....	\$	.....
1901,	15,084,852	+11,927,153	+380.9	.....	.....
1906,	22,878,290	+7,793,438	+51.7	.....	.....
1907,	20,989,112	-1,890,178	-8.4	+17,830,413	+564.7

MARKET VALUE OF BLACK PLATE NOT TINNED.

1896,	\$1,480,112	\$	.....	\$	.....
1901,	1,940,486	+460,374	+31.1	.....	.....
1906,	844,263	-1,096,223	-56.5	.....	.....
1907,	1,992,477	+1,148,214	+136.0	+512,365	+34.6

MARKET VALUE OF PRODUCTION TINNED AND UNTINNED.

1896,	\$4,637,811	\$	.....	\$	.....
1901,	17,025,338	+12,387,527	+267.1	.....	.....
1906,	23,722,553	+6,697,215	+39.3	.....	.....
1907,	22,980,589	-741,964	-3.1	+18,342,778	+395.5

AVERAGE NUMBER OF PEOPLE EMPLOYED.

1896,	3,194	.....	.....	.....	.....
1901,	8,189	+4,994	+156.4	.....	.....
1906,	8,686	+497	+6.1	.....	.....
1907,	7,365	-1,320	-15.2	+4,171	+130.6

AGGREGATE AMOUNT OF WAGES PAID.

1896,	\$1,437,226	\$	.....	\$	.....
1901,	4,593,561	+3,156,335	+219.6	.....	.....
1906,	6,180,265	+1,586,704	+34.5	.....	.....
1907,	5,319,694	-860,571	-13.9	+3,882,468	+270.1

AVERAGE YEARLY EARNINGS.

1896,	\$456 55	\$	.....	.....	.....
1901,	561 01	+104 46	+22.9	.....	.....
1906,	711 60	+150 59	+26.8	.....	.....
1907,	722 29	+10 69	+1.5	+265 74	+58.2

AVERAGE DAILY WAGE.

1896,	\$1 80	\$	.....	\$	.....
1901,	2 46	+\$0 66	+36.7	.....	.....
1906,	2 60	+14	+5.7	.....	.....
1907,	3 67	+1 07	+41.1	+1 87	+103.9

PRODUCTION OF TIN PLATE 1907—DIPPING WORKS.

THE DIPPING WORKS BUY ALL THEIR BLACK PLATE.

Number of plants in operation,	4
Number of tinning sets,	40
Daily capacity in pounds,	250,220
Capital invested,	\$1,387,080
Average number of days in operation,	276
Average number of people employed,	238
Males,	200
Females,	38
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Aggregate amount of wages paid,	\$123,876
Males,	\$113,302
Females,	10,574
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Average yearly earnings for each person employed,....	\$520 49
Males,	\$566 51
Females,	278 26
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Average daily wage,	\$1 89
Males,	\$2 05
Females,	1 01
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Total production tin plate (pounds),	4,705,305
Total production terne plate (pounds),	24,377,611
Market value of tin plate,	\$209,789
Market value of terne plate,	\$1,310,620
Average value for one hundred pounds of tin and terne plates,	\$5 23
Average value of production for each employe,	\$6,388 27

COMBINED PRODUCTION OF TIN AND TERNE PLATE BY THE BLACK PLATE WORKS AND THE DIPPING WORKS, 1907.

Total production of tin and terne plate (pounds),	590,245,624
Total value,	\$22,508,521
Average value per one hundred pounds,	\$3 81

COMBINED PRODUCTION OF TIN AND TERNE PLATE BY THE BLACK PLATE AND DIPPING WORKS.

COMPARISON OF TOTALS FOR THE YEARS 1896, 1901, 1906 AND 1907.

Years.	Totals	Increase (+) or decrease (-) as compared with preceding year.		Increase (+) or decrease (-) 1907 as compared with 1896.	
		Amounts.	Percentage.	Amounts.	Percentage.

TOTAL NUMBER OF POUNDS OF TIN AND TERNE PLATE.

1896,	139,588,703				
1901,	421,640,000	+282,051,297	+202.1		
1906,	683,219,564	+261,579,564	+62.1		
1907,	590,245,624	-92,973,940	-13.6	+450,656,921	+322.9

TOTAL VALUE OF PRODUCTION.

1896,	\$5,045,097	\$		\$	
1901,	17,612,030	+12,566,933	+249.1		
1906,	24,382,962	+6,770,932	+38.4		
1907,	22,508,521	-1,874,441	-7.7	+17,463,424	+346.1

AVERAGE VALUE PER ONE HUNDRED POUNDS.

		Cts.		Cts.	
1896,	\$3 61				
1901,	4 18	+57	+15.8		
1906,	3 57	-61	-14.6		
1907,	3 81	+24	+6.7	+20	+5.5

TIN PLATE SUPPLEMENT—LABOR.

Statistical summary of employees, their number, nationality, number owning their homes, average number of working hours per week, average yearly rent, number affected by strike or lockout.

Total number of companies,	11
Number of companies reporting on labor blanks,	10
Number of days lost by strike,	57
Number of employees affected,	90
Number of employees who own their own homes,	65
Highest rent per annum reported,	\$240
Lowest rent per annum reported,	\$140
Average rent paid per annum,	\$200
Companies working 60 hours per week,	4
Companies working 59 hours per week,	1

Companies working 54 hours per week,	4
Companies working 48 hours per week,	2
Average working hours per week,	55

NATIONALITY.

The nationality of employes reported, numbered as follows,	2,802
Americans,	2,165
Italians,	123
Swedes,	86
Hungarians,	29
Mixed nationality,	202
Polanders,	20
Welsh,	72
Negroes,	20
English,	3
Croatians,	7
Irish,	75

STRIKE AND LOCKOUTS IN TIN PLATE INDUSTRY.

Number 3. Reported strike in tin house on account of increase in wage scale presented, it was not recognized, and we started up with non-union men, and did not loose a day.

Number 9. Reported strike began February 25, ended April 30. Number of people affected, 90. Result, strike not successful. Not arbitrated. Question in dispute: Demand of employes to force recognition of union men in place of non-union.

CAUSES GIVEN FOR DAYS LOST IN THE TIN PLATE INDUSTRY.

- Number 2. Reports idle three and a half months.
- Number 3. Report idle one month account floods and repairs.
- Number 5. Report idle 20 weeks, dullness of trade.
- Number 7. Report idle 26 days, financial complication.
- Number 8. Report idle 50 days, dullness and repairs.
- Number 9. Report idle 15 days, gas and steam shortage and repairs.

Number 13. Report idle 11 days, holidays and repairs.
Four companies do not report as being idle.

PRODUCTION OF ANTHRACITE COAL, 1907.

A condensed statement of Anthracite coal mining in the State of Pennsylvania, showing the number of coal operators, the number of collieries in operation, total gross tons of coal mined, amount loaded on board cars, tons sold to local trade and tons used for steam at collieries, value of tonnage sold, aggregate wages paid for the several classes of labor, number of people employed, average days breakers worked, etc.

Number of corporations or firms reporting,	118
Number of collieries in operation (does not include washeries),	294
Total gross tons of coal mined,	71,964,661
Gross tons mined and shipped,	64,112,567
Gross tons mined and sold locally,	1,365,082
Gross tons mined and used for steam,..	6,487,012
<hr/>	
Market or realized value of coal shipped and sold local trade,	\$156,154,760
Average number of days in operation (breaker time) for all collieries in operation during the year,	243
Average number of people employed relative to days worked,	164,861
Salaried men such as superintendents, clerks, foremen, bosses, etc.,	3,120
Miners,	41,075
Miner's laborers,	30,162
Other inside workmen over 16 years of age,	41,833
Other inside workmen under 16 years of age,	445
Employes connected with colliery outside mines,	30,457
Slate picking breaker employes,	5,024
Men,	3,186
Boys,	1,838
<hr/>	
Breaker employes,	12,745
Engineers and firemen, ...	3,839
Slate pickers, men,	2,239
Slate pickers, boys,	6,667
<hr/>	
Aggregate amount of wages paid to all employes,.....	\$94,638,339

Superintendents, foremen, bosses and office force,	\$2,583,325	
Miners (less powder and other supplies),	29,462,021	
Miner's laborers,	14,742,614	
Other inside men over 16 years of age,	24,002,366	
Other inside workmen under 16 years of age,	118,949	
Employees connected with colliery outside mines,	16,964,536	
Slate pickers, breaker employees, men and boys,	1,399,056	
Breaker employees such as engineers, firemen, slate pickers,	5,365,472	
<hr/>		
Average yearly earnings,		\$574 44
Superintendents, foremen, bosses and office force,	\$829 18	
Miners,	717 05	
Miner's laborers,	489 09	
Other inside men over 16 years of age, ..	574 25	
Other inside workmen under 16 years of age,	267 30	
Outside men connected with mine operation,	557 81	
Slate pickers,	278 47	
Breaker employees,	422 47	
Average daily wage,		\$2 36
Superintendents, foremen, bosses and office force,	\$3 42	
Miners,	2 95	
Miner's laborers,	2 01	
Other inside men over 16 years of age, ..	2 36	
Other inside workmen under 16 years of age,	1 10	
Outside men connected with mine operation,	2 30	
Slate pickers,	1 15	
Breaker employees,	1 74	

NOTE.—There is no value given for the coal used at the collieries for steam, but should be computed as part of the mineral wealth. Assuming that the 6,487,012 gross tons had been sold to other industries instead of being used in their own production, it would have a value of \$5,727,991.18.

Some reports gave the engineers and firemen as breaker employees, and in other reports they were placed among the outside employees, so that if the engineers and firemen are properly represented in the statement it would show 5,973 instead of 3,839.

The anthracite mining is largely done by contract. The miner is assigned to a working known as a "chamber." He is paid so much a car for mining or cutting the coal, employs and pays his own laborer assisting him, furnishes the powder, oil, tools to do the work, and it is the duty of the laborer to load in the coal in the cars after it is cut, so the average yearly tonnage represents two persons.

The number of hours the breaker worked does not indicate the hours worked by the miner, as many that have good veins to mine take fewer hours of employment to cut enough coal to keep the breaker working all day in preparing the coal for the market.

Average number of tons of coal mined by each miner for the year 1907,	1,741
Average number of tons of coal mined for each miner per day,	7.16
Average value per ton f. o. b. without regard to size, ..	<u><u>\$2 41</u></u>

ANTHRACITE WASHERIES.

WASTED COAL REDEEMED FROM CULM BANKS 1907.

Total number of washeries reporting,	53
Total gross tons of marketable coal,	3,485,541
Market or realized value of production,	\$3,201,495
Number of persons employed,	1,852
Aggregate amount of wages paid,	\$825,319
Average yearly earnings,	\$445 63
Average value of production for each employe,	\$1,731 37
Average value per ton,	92
Average tonnage production for each employe,	1,882

Statistical summary of coal dredged from the Susquehanna and Schuylkill rivers, number of tons taken out, number of people employed, amount of wages paid, etc.

Number of plants for dredging on the Susquehanna, ..	21
Number of plants for dredging on the Schuylkill,	13
Capital invested,	\$56,918
Tons secured and sold,	65,538
From the Susquehanna,	45,069
From the Schuylkill,	20,469

Value of coal taken from river bottom,	\$56,929
Susquehanna,	\$38,521
Schuylkill,	\$18,408

Average days worked,	113
Number of men employed in the business,	141
On the Susquehanna,	94
On the Schuylkill,	47

Amount of wages earned,	\$31,375
Along the Susquehanna,	\$22,801
Along the Schuylkill,	8,574

Yearly wage,	\$222 52
Daily wage,	\$1 97
Average value of coal per ton,	87
Average value of production for each employe,	\$403 75

The dredging of these rivers for coal by individuals began in the following years: One began in 1888, one in 1889, four in 1892, one in 1894, two in 1897, three in 1898, four in 1900, one in 1902, two in 1903, two in 1905, two in 1906, two in 1907. Kind of boats used: Flat bottoms, twenty-two; steam, three; canal, one. Flat bottom scows, six. Methods used: Suction pumps, thirteen; endless chain buckets, ten; steam dredge, seven; shovels, three; centrifugal pumps, two, conveyor, one.

COMPARISON OF ANTHRACITE COAL MINING AS SUMMARIZED IN 1903, 1904, 1905 and 1907.

Years.	Totals.	Increase (+) or decrease (-) as compared with preceding year.		Increase (+) or decrease (-) 1907 as compared with 1903.	
		Amounts.	Percentage.	Amounts.	Percentage.

GROSS TONS MINED AND SOLD.

1903,	64,595,664	.....	.....	.....	.....
1904,	58,057,447	+6,538,217	+10.1	.....	.....
1905,	61,634,226	+3,576,779	+6.1	.....	.....
1907,	65,477,649	+3,843,423	+6.2	+881,985	+1.3

MARKET VALUE OF PRODUCTION.

1903,	\$151,277,587	\$	.....	\$	.....
1904,	140,370,498	-10,907,089	-7.2	.....	.....
1905,	143,048,605	+2,678,107	+1.9	.....	.....
1907,	156,154,760	+13,106,155	+9.2	+4,877,173	+3.2

AVERAGE NUMBER OF PEOPLE EMPLOYED.

1903,	157,955	.....	.....	.....	.....
1904,	160,579	+2,624	+1.7	.....	.....
1905,	167,466	+6,887	+4.3	.....	.....
1907,	164,861	+2,605	-1.6	+6,906	+4.4

AGGREGATE WAGES PAID.

1903,	\$77,624,281	\$	.....	\$	.....
1904,	92,217,814	+14,593,533	+18.8	.....	.....
1905,	87,178,257	-5,039,557	-5.5	.....	.....
1907,	94,638,339	+7,460,082	+8.6	+17,014,058	+21.9

COMPARISON OF ANTHRACITE COAL MINING—Continued.

Years.	Totals.	Increase (+) or decrease (-) as compared with preceding year.		Increase (+) or decrease (-) 1907 as compared with 1903.	
		Amounts.	Percentage.	Amounts.	Percentage.

AVERAGE YEARLY EARNINGS.

1903,	\$491 43	\$	.....	\$	.....
1904,	574 28	+82 85	+16.8	.....	.....
1905,	520 57	-53 71	-9.4	.....	.....
1907,	574 44	+53 87	+10.3	+83 01	+16.9

AVERAGE DAILY WAGE.

1903,	\$2 07	Cts.	.....	Cts.	.....
1904,	2 48	+41	+19.8	.....	.....
1905,	2 24	-24	-10.0	.....	.....
1907,	2 36	+12	+5.4	+29	+14.0

AVERAGE DAYS OF EMPLOYMENT.

1903,	237	.....	.....	.....	.....
1904,	231	-6	-2.5	.....	.....
1905,	232	+1	+4	.....	.....
1907,	243	+11	+4.7	+6	+2.5

***ANTHRACITE COAL,**

The following table shows the counties in which anthracite is mined together with the number of collieries in each county, the number of gross or long tons of coal and relative per cent. as to tonnage.

Counties.	Number of collieries.	Gross tons.	Per cent.
Luzerne,	95	25,899,025	35.99
Schuylkill,	77	17,744,513	24.66
Lackawanna,	74	16,819,289	23.37
Northumberland,	24	5,899,842	8.20
Carbon,	11	2,512,276	3.49
Columbia,	3	1,028,828	1.43
Dauphin,	2	741,054	1.04
Susquehanna,	2	575,080	.79
Sullivan,	4	375,093	.52
Wayne,	2	369,661	.51
Total,	294	71,964,661	100.00

NATIONALITY OF EMPLOYEES.

Total number of employes,	85,312
Americans,	28,009
English,	2,507
Germans,	3,915
Irish,	5,199
Polanders,	3,609
Italians,	5,683
Hungarians,	3,951
Swedes,	47
Welsh,	2,991
Slavonians,	6,487
Scotch,	300
French,	66
Lithuanians,	8,244
Russians,	3,457
Austrians,	2,084
Danes,	5
Negroes,	4

*Does not include coal produced by washeries.

Tyrolians,	519
Greeks,	744
Spaniards,*	6
Canadians,	80
Magyars,	68
Servians,	14
Montenegrins,	1
Arabians,	45
Galatians,	3
Belgians,	4
Bohemians,	4
Armenians,	2
Assyrians,	24
Foreigners (nationality not given),	7,237

Summary of the causes assigned (other than strike or lockouts) for loss of time in the anthracite mines during 1907.

No. 1 report "Idle for 37 mines 2,639 days for the following causes: Breakdowns, car shortage, men not reporting for work, picnics, Labor day, gas in mine, snow storms, funerals, general orders, shortage of coal, repairs, rebuilding breakers, men killed, high water and cleaning condemned coal."

Number 8 report "Idle 105 days, car shortage, holidays, shortage of men."

Number 9 report "Idle due to accidents, to machinery and car shortage."

Numbers 15 and 16 report "Idle from January 28th to September 23rd account destruction of breakers by fire."

Number 17 report "Idle 6 weeks for repairs."

Number 19 report "Idle 7 months, fire in surface vein, by order of mine inspector."

Number 20 report "Idle 14 days, floods and holidays."

Number 21 report "Idle 33 days, short of men, holidays and funerals."

Number 22 report "Idle May 22 to June 21, account fire."

Number 23 report "Idle 6 months repairing after fire."

Number 25 report "Idle 7 months, car shortage."

Number 28 report "Idle 3 days account cave-in."

Number 32 report "Idle 30 days, repairing."

Number 33 report "Idle 65 days, car shortage, break-downs and holidays."

Number 34 report "Idle 23 days, car shortage, break-downs and holidays."

Number 39 report "Idle 22 days, embargo, holidays and repairing."

Number 44 report "Idle 952 days in 11 collieries operated by one company, car shortage, remodeling breakers, holidays and picnics."

Number 45 report "Idle 9 days, high water and repairs."

Number 49 report "Idle 14 days, church holidays and pic-nics."

Number 51 report "Idle 10 days, religious holidays."

Number 53 report "Idle 2 weeks, repairing."

Number 54 report "Idle for car shortage, holidays, no coal."

Number 55 report "Idle 34 days, for the following causes: Car shortage, break downs, high water, Catholic holidays, no coal, short of men, Mitchel day, pic-nics and suspension ordered."

Number 62 report "Idle 29 days, lack of orders, car shortage, repairs and funerals."

Number 63 report "Idle 21 days, repairing, December 10th to 24th water in mine."

Number 65 report "Idle 2 weeks high water."

Number 67 report "Idle March 29th to September 1st, breaker burned."

Number 68 report "Idle 41 days, holidays, funerals, accidents to machinery, Holy days, car shortage."

Number 70 report "Idle July 1st to October 31st, building new breaker."

Number 72 report "Idle may 31st to September 3rd, development of mine."

Number 74 report "Idle 25 days repairing and holidays."

Number 77 report "Idle 45 days, car shortage, holidays and suspension."

Number 78-B. report "Idle 269 days in 5 collieries operated by one company, account holidays, men not reporting, car shortage and break-downs."

Number 80 report "Idle 56 days, shortage of coal, holidays, accidents to machinery, men not reporting, snow storms."

Number 81 report "Idle 100 days in two collieries, holidays, accidents to machinery, men not reporting for work."

Number 84 report "Idle 34 days, elections, Holy and holidays, break-downs and business depression."

Number 85 report "Idle 53 days, holidays, break-downs and men not reporting for work."

Number 88 report "Idle 24 days, break-downs, holidays and men not reporting for work."

Number 106 report "Idle 18 days, suspension on Philadelphia and Reading, accidents, high water and men not reporting for work."

Number 107 report "Idle from August 1st to October 15th repairing."

Number 109 report "Idle 7 weeks repairing."

Number 111 report "Idle 44 days for various causes."

Number 126 report "Idle 34 days, holidays and various causes."

Number 130 report "Idle January 1st to March 25th rebuilding breaker."

Number 132 report "Idle 25 days, repairing."

Number 133 report "Idle during April suspension."

Number 137 report "Idle account no sale for coal locally."

Number 140 report "Idle 66 days, holidays and various causes."

Number 141 report "Idle July 22nd to September 24th repairing breakers."

Number 145 report "Idle 5 months."

Number 146 report "Idle 4 days transportation of employes to and from mine."

Number 150 report "Idle 20 days, holidays, church days, breakdowns, employes absent after pay days."

Number 152 report "Idle 5 months, business depression."

Number 157 report "Idle 2 months, account high water."

Number 161 A, B, C, D and E report "Idle 385 days for the five mines owned by one company, various causes."

Numbers 92 and 118 report "Not idle during year."

Seventy-two firms make no report of being idle.

STRIKES AND LOCKOUTS.

Number 8. Strikes began February 11th, July 13th, and ended February 14th, August 3rd.

Number of days lost, 27.

Number of people affected 519.

Strikes were not successful.

Not arbitrated.

Number 30. Strike began June 21st, ended September 22nd.

Number days lost 74.

Number of people affected, 147.

Strike was successful.

Not arbitrated.

Question in dispute, do not state,

- Number 47. Strike began March 16th, ended March 24th.
Number of days lost, 8.
Number of people affected, 2,838.
Strike was not successful.
Question in dispute: "Right of employer to hire and discharge his own men."
- Number 63. Strike began February 2nd, ended February 27th.
Number of days lost 25.
Number of people affected 474.
Strike was not successful, then strikers resorted to arbitration, but they withdrew their case.
- Number 81. Strike August 16th. Miners dissatisfied with dockage.
October 1st drivers wanted day of hunting.
- Number 85. Strike began September 5th, ended 21st.
Number of days lost 15.
Number of people affected 250.
Strike not successful.
Question in dispute: "Demand increase in wages."
- Number 142. Strike began May 17th, ended 20th.
Number days lost 3.
Strike not successful.
Question in dispute: "Wages."
- Number 78. Strikes. See notes attached.

STRIKES.

No. A-78.

August 26th, 1907—Colliery No. 5, No. 2 Shaft.—On August 24th at quitting time a large number of men and boys rushed on the cage to be hoisted, the footman requested that some of them get off, as he would only hoist ten persons at a time. They would not obey his orders and he held the cage at the foot for about a half hour, after which they were hoisted, ten men at a time. On August 26th the runners, drivers, door boys and couplers refused to go down, stating that they heard one of them would be discharged and wanted to get paid for being held for the half hour at foot. They returned to work the next day; payment for the half hour not granted. The colliery worked all day, but No. 2 shaft was idle; 280 men affected; lost 9 hours.

September 26th, 27th and 28th, 1907—Colliery No. 5, No. 2 Shaft.—Runners, drivers, door boys and couplers struck on account of one of the drivers being discharged a week previous and also wanted to get paid for the half hour they waited at the foot on August 24th. The driver was discharged for running his mules in the

mines. No. 2 shaft idle on 26th and 27th, but on the 28th boys in other sections of mine did not go to work, throwing the colliery idle for 7 hours. 190 men affected 2 days and 1,236 men 7 hours. No concessions made. Boys returned to work on the 29th.

September 20th, 1907—Colliery No. 7, No. 1 South Shaft.—Drivers, door boys and couplers struck, wanting to be paid extra time for waiting at foot of shaft. No concessions made. Colliery worked all day; 151 men affected.

September 24th, 1907—Colliery No. 7.—A driver was discharged, after being warned many times for leaving his mule in the gangway. The drivers, runners, door boys and couplers declared a strike, stating that they wanted the driver reinstated. No concessions made. Returned to work the next day. Colliery lost 6 hours; 1,148 men affected.

September 28th, 1907—Colliery No. 7.—Driver was discharged for running his mules in the mines through the tunnel. The others remained out and would not go to work unless the driver was reinstated. No concessions made. Returned to work on September 30th. Colliery lost 4 hours; 1,148 men affected.

November 29th, 1907—Colliery No. 7.—A driver was discharged for running his mules in the mines and another for quitting at 4 o'clock. The others declared a strike; they wanted the drivers reinstated. No concessions made; returned to work the next day. Breaker lost 8 hours; 1,172 men affected.

BITUMINOUS COAL.

Production of bituminous coal, 1907, in counties that have no coke ovens or do not coke coal.

Total number of mines or openings,	969
Total number of tons (net) mined,	74,921 653
Total numbers of tons shipped f. o. b.,	72,501,357
Total number of tons consumed at plant, ..	1,614,598
Total number of tons sold to local trade, ..	805,698
<hr/>	
Market or realized value of product at mines,	\$77,168,376
Market or realized value of coal shipped	
f. o. b.,	\$74,675,471
Market or realized value of coal consumed	
and sold to local trade,'. ' ..	2,492,905
<hr/>	

Average number of days in operation,	258
Average number of people employed,*	89,603
Miners (pick),	37,506
Miners (machine),	30,411
Other inside workmen over 16 years,..	12,433
Other inside workmen under 16 years,	444
Outside workmen over 16 years,.....	8,778
Outside workmen under 16 years,	31

Aggregate wages paid to all these employes (not including superintendents or office force),	\$52,629,003
Miners (pick),	\$21,518,882
Miners (machine),	16,723,056
Other inside workmen over 16 years,.	8,450,633
Other inside workmen under 16 years,	108,141
Outside workmen over 16 years,.....	5,815,106
Outside workmen under 16 years,....	13,185

Average yearly wage,	\$587 41
Miners (pick),	\$573 74
Miners (machine),	549 90
Other inside workmen over 16 years,.	681 89
Other inside workmen under 16 years,	221 04
Outside workmen over 16 years,	662 46
Outside workmen under 16 years,....	425 32

Average daily wage,	\$2 28
Miners (pick),	\$2 22
Miners (machine),	2 13
Other inside workmen over 16 years,..	2 64
Other inside workmen under 16 years,	85
Outside workmen over 16 years,.....	2 56
Outside workmen under 16 years,	1 64

Average number of tons per miner mined during the year,	1,103
Average number of tons produced per miners per day,.	4.71
Average value per ton at the mines,	\$1 03

*In addition to the wage earners given, there are employed in this industry 1,633 people in the capacity of superintendents, mine foremen, assistant mine foremen, fire bosses, bookkeepers and clerks.

This is incomplete as many firms did not answer the question as to the number of officials and office force employed.

BITUMINOUS COAL SUPPLEMENT—LABOR.

(This statement refers to mines that do not coke coal.)

Statistical summary of employes, their number, nationality, number owning homes, average number of working hours per week, average yearly rent, number affected by strikes and lockouts.

Total number of companies,	512
Number of companies reporting on labor blank,	475
Number of companies not reporting on labor blank, ...	37
Number of days lost by strike,	201
Number of employes affected by strike,	3,777
Number of employes who own homes,	7,320
Highest rent per annum given,	\$135
Lowest rent per annum given,	\$12
Average rent paid per annum,	\$67
Average working hours per week,	49
Companies working 72 hours per week,	2
70 hours per week,	1
64 hours per week,	2
60 hours per week,	48
59 hours per week,	1
58 hours per week,	1
57 hours per week,	2
56 hours per week,	2
54 hours per week,	83
53 hours per week,	3
52 hours per week,	2
50 hours per week,	5
48 hours per week,	296
47 hours per week,	1
46 hours per week,	2
45 hours per week,	3
44 hours per week,	2
42 hours per week,	1
40 hours per week,	8
32 hours per week,	1
30 hours per week,	1
27 hours per week,	1
24 hours per week,	1
Number of fatal accidents,	247
Number of non-fatal accidents,	1,093

Note.—From statements received 9.1 per cent. of all employes own their homes.

NATIONALITY.

Nationality of employes reported, total number, 79,660

Nationality and number of each as follows:

Americans,	21,987
Slavonians,	12,884
Italians,	10,735
Hungarians,	5,760
Polanders,	5,748
English,	3,294
Swedes,	2,053
Austrians,	1,462
Germans,	1,310
Lithuanians,	1,220
Russians,	1,110
Irish,	1,051
Scotch,	683
French,	564
Norwegians,	533
Welsh,	409
Belgians,	384
Greeks,	220
Bohemians,	209
Granolis,	207
Negroes,	147
Finlanders,	136
Croatians,	118
Tyroleans,	108
Howats,	78
Armenians,	50
Danes,	30
Roumanians,	19
Canadians,	10
Magyars,	4
Scandinavians,	2
Syrenians,	2
Hebrew,	1
Mixed,	6,732

SUMMARY OF THE CAUSES ASSIGNED (OTHER THAN STRIKES OR LOCKOUTS) FOR LOSS OF TIME IN BITUMINOUS MINING DURING 1907.

Number of companies reporting no loss of time during 1907, except that caused by strikes or lockouts,	109
Number of companies reporting loss of time caused by car shortage,	43
(Days lost, car shortage, 2,374.)	
Number of companies reporting loss of time caused by car shortage but not giving the number of days lost,	40
Number of companies reporting loss of time caused by lack of orders, .....	..
(Days lost, lack of orders, 1,681.)	
Number of companies reporting loss of time caused by car shortage and lack of orders, .....	..
(Days lost, car shortage and lack of orders, 202.)	
Number of companies reporting loss of time caused by lack of orders but not giving the number of days lost,	26
Number of companies reporting loss of time caused by car shortage and lack of orders, but not giving the number of days lost,	9
Number of companies reporting loss of time caused by making repairs,	4
(Days lost making repairs, 113.)	
No. 239 reports "Idle on account car shortage and scarcity of miners."	
No. 332 reports "Mines closed down December 21st account poor business."	
No. 479 reports "Idle three months on account price of coal."	
No. 595 reports "Idle three and one-half months account scarcity of men."	
No. 651 reports "Idle 63 days account car shortage, repairs and employes not reporting for work."	
No. 680 reports "Idle one month on account of construction work; the balance of the time lost caused by car shortage."	
No. 602 reports "Idle on account car shortage, holidays and petty strikes."	
No. 68 Reports "Idle from October 28th to November 11th on account of railroad strike."	
No. 86 reports "Idle 120 days on account of lack of orders and sale of mine."	
No. 241 reports "Idle on account car shortage and scarcity of men."	

No. 430 reports "Idle 10 days on account of railroad strike."

No. 601 reports "Idle 112 days on account of selling mine."

No. 614 reports "Mine closed December 10th."

No. 620 reports "Idle 100 days on account legal an Church holidays."

No. 362 reports "Idle 100 days on account of high water."

No. 390 reports "Idle a few days on account of change in machinery."

No. 408 reports "Idle from February 1st to October 1st on account of change in management."

BITUMINOUS COAL.

The following shows the counties in which bituminous coal is mined that do not coke coal, together with the number of tons mined in each county, and the relative per cent. of total mined in the State.

Counties.	Number of mines.	Net tons.	Percentage.
Washington,	59	11,017,105	14.705
Cambria,	142	10,164,221	13.566
Allegheny,	71	9,428,115	12.584
Westmoreland,	59	7,496,787	10.005
Clearfield,	183	5,973,178	7.973
Indiana,	67	5,513,139	7.358
Somerset,	57	5,358,202	7.152
Fayette,	39	4,994,465	6.667
Armstrong,	44	3,570,104	4.766
Jefferson,	26	2,345,000	3.130
Butler,	26	1,797,280	2.399
Tioga,	17	1,279,552	1.708
Clarion,	41	1,058,190	1.413
Centre,	35	999,738	1.335
Mercer,	15	960,313	1.281
Huntingdon,	17	735,330	.982
Bedford,	21	532,985	.712
Elk,	9	521,968	.697
Clinton,	7	481,505	.643
Beaver,	12	245,980	.329
Lawrence,	10	191,579	.256
Greene,	1	170,000	.227
Lycoming,	4	62,207	.83
Bradford,	3	11,729	.15
McKean,	2	8,119	.09
Cameron,	1	2,862	.3
Blair,	1	2,000	.2
Total,	969	74,921,653	100.

**SYNOPSIS OF STRIKES AND LOCKOUTS IN BITUMINOUS
COAL MINING, 1907, AS OFFICIALLY REPORTED BY OWN-
ERS OR OPERATORS.**

- No. 1. Number of days lost, 2.
Number of people affected, 250.
Result, strike party successful.
Arbitrated.
Strike began June 1st; ended June 3.
Question in dispute: "Installation of the Pates' Steam
Dump."
Dump was discontinued.
- No. 37. Number of days lost, 7.
Number of people affected, 798.
Result, strike successful.
Arbitrated.
Strike began April 1st; ended April 6th.
Question in dispute: "Pates' Dump."
- No. 43. Number of days lost, 4.
Number of people affected, 15.
Result, none given.
Strike began April 11th; ended April 16th.
Question in dispute: "Miners wanted one of their own men
to weigh the coal instead of the foreman."
- No. 66. Number of days lost, 24.
Number of people affected, 125.
Result, strike was not successful.
Strike began October 16th; ended November 11th.
Question in dispute: "Union miners refused to work with
non-union miners."
- No. 75. Number of days lost, 6.
Number of people affected, 63.
Result, strike not successful.
Not arbitrated.
No date of beginning or ending of strike given.
Question in dispute: "The discharge of an employe; miners
struck to have him reinstated."
- No. 112. Number of days lost, 3.
Number of people affected (males), 92.
Number of people affected (minors), 4.
Result, strike was not successful.
Not arbitrated.
No date of beginning or ending of strike given.

Question in dispute: "Electing a checkweighman not an employe."

No. 123. Number of days lost, 9.

Number of people affected (males), 287.

Number of people affected (minors), 7.

Result, strike compromised .

Strike began November 15th, ending November 19th and October 20th ending October 23rd.

Question in dispute: "Delayed pay day and yardage."

No. 131. Number of days lost, 11.

Number of people affected, 860.

Result, strike was not successful.

Not arbitrated.

Strike began February 22d, ending February 27; and August 19th, ending August 24th.

No. 239. Number of days lost, 26.

Number of people affected (males), 60.

Number of people affected (minors), 1.

Result, strike not successful; miners went back to work at same price.

Strike began July 14th; ending August 1st.

Question in dispute: "Demanded more pay for dead work than wage scale called for."

No. 246. Number of days lost, 18.

Number of people affected, 112.

Result, strike was not successful.

Arbitrated.

Strike began July 1st; ending July 17th.

No reply given as to the question in dispute.

No. 475. Number of days lost, 11.

Number of people affected, 150.

Result, strike was not successful.

Arbitrated.

Strike began December 18th; ending December 31st.

Question in dispute: "Loading of impure coal."

No. 518. Number of days lost, 3.

Number of people affected, about 500.

Result, strike was not successful.

No date of beginning or ending of strike given.

No reply given to question in dispute.. The miners returned to work on their own accord, finding they were in error.

No. 591. Number of days lost, 20.

Number of people affected, 298.

Result, strike was not successful.

Not arbitrated.

Strike began November 2nd; ending November 24th.

Question in dispute: "Miners refused to accept clearing house checks at one mine and we closed down."

No. 618. Number of days lost, 25.

Number of people affected, 30.

Result, strike was successful.

Arbitrated.

Strike began April 2nd; ending about May 1st.

Question in dispute: "Signing of scale and recognition of the Union."

No. 668. Number of days lost, 17.

Number of people affected (males), 61.

Number of people affected (minors), 4.

Results, strike was successful.

Strike began November 13th; ending November 30th.

Questions in dispute: "Collection of check off.

No. 649. Number of days lost, 15.

Number of people affected, 60.

Results, strike was not successful.

Strike began June 22nd; ending July 7th.

Question in dispute: "Dissatisfaction in regard to pay day."

COMPARISON OF BITUMINOUS COAL MINING AS SUMMARIZED IN 1903, 1904, 1905, 1906 AND 1907.

Years.	Totals.	Increase (+) or decrease (-) as compared with preceding year.		Increase (+) or decrease (-) 1907 as compared with 1903.	
		Amounts.	Percentage.	Amounts.	Percentage.

TONS (NET) OF COAL MINED.

1903,	101,113,290	.....	.....	.....	.....
1904,	97,490,708	-3,622,582	-3.6	.....	.....
1905,	116,263,504	+18,772,796	+19.3	.....	.....
1906,	122,493,923	+6,230,419	+5.4	.....	.....
1907,	149,390,965	+26,897,042	+21.9	+48,277,675	+47.7

MARKET VALUE OF PRODUCTION.

1903,	\$128,991,363	\$	.....	\$	.....
1904,	91,936,570	-37,054,793	-28.7	.....	.....
1905,	104,231,121	+12,294,551	+13.4	.....	.....
1906,	159,226,444	+54,996,323	+52.8	.....	.....
1907,	174,035,853	+14,809,409	+9.3	+45,044,490	+34.9

AVERAGE NUMBER OF PEOPLE EMPLOYED.

1903,	145,880	.....	.....	.....	.....
1904,	146,331	+451	+0.3	.....	.....
1905,	153,141	+6,810	+4.7	.....	.....
1906,	155,602	+2,461	+1.6	.....	.....
1907,	175,271	+19,669	+12.6	+29,391	+20.2

AGGREGATE WAGES PAID.

1903,	\$78,857,502	\$	.....	\$	.....
1904,	66,134,195	-12,723,307	-16.1	.....	.....
1905,	76,966,725	+10,832,530	+16.4	.....	.....
1906,	84,806,403	+7,839,678	+10.2	.....	.....
1907,	105,760,578	+20,954,175	+24.7	+26,903,076	+34.1

AVERAGE YEARLY EARNINGS.

1903,	\$540 69	\$	.....	\$	.....
1904,	452 09	-88 60	-16.4	.....	.....
1905,	502 58	+50 49	+11.1	.....	.....
1906,	545 21	+42 63	+8.5	.....	.....
1907,	603 72	+58 51	+10.7	+63 03	+11.6

AVERAGE DAILY WAGE.

1903,	\$2 31	Cts.	.....	.....	.....
1904,	2 26	-05	-2.2	.....	.....
1905,	2 23	-03	-1.3	.....	.....
1906,	2 66	+43	+19.3	.....	.....
1907,	2 25	-41	-1.5	-6	-2.5

COMPARISON OF BITUMINOUS COAL—Continued.

Years.	Totals.	Increase (+) or decrease (-) as compared with preceding year.		Increase (+) or decrease (-) 1907 as compared with 1903.	
		Amounts.	Percentage.	Amounts.	Percentage.

AVERAGE DAYS OF EMPLOYMENT.

1903,	234	.....	.....	.....	.....
1904,	204	—30	—12.8	.....	.....
1905,	261	+57	+27.9	.....	.....
1906,	205	—56	—21.4	.....	.....
1907,	268	+63	+30.7	+34	+14.5

BITUMINOUS COAL.

The following shows the counties producing bituminous coal from which coke was made with number of mines, the tonnage and relative per cent.

Counties.	Number of mines.	Net tons.	Percentage of product.
Fayette,	101	24,124,874	32.396
Westmoreland,	94	21,218,361	28.493
Allegheny,	58	8,015,007	10.763
Cambria,	45	5,540,389	7.440
Washington,	26	3,598,357	4.832
Jefferson,	13	3,587,530	4.817
Indiana,	8	2,649,973	3.558
Clearfield,	16	2,401,065	3.224
Somerset,	21	1,750,894	2.351
Elk,	5	921,803	1.238
Bedford,	2	231,362	.311
Centre,	5	190,923	.257
Blair,	3	118,922	.160
Huntingdon,	1	59,910	.080
Armstrong,	2	32,387	.043
Cameron,	2	27,555	.037
Total,	402	74,469,312	100.

**SYNOPSIS OF STRIKES AND LOCKOUTS IN BITUMINOUS
COAL MINING, PRODUCING COKE, 1907, AS OFFICIALLY
REPORTED BY OWNERS OR OPERATORS.**

Number 2. Strike began August 1st and October 22nd; ended August 9th and October 30th.

Number of days lost, 13.

Number of people affected, 169.

Result, strike not successful.

Questions in dispute: "One of the workmen would not join the union, and for even turn."

Number 5. Strike began November 1st; ended November 16th.

Number of days lost, 15.

Number of people affected, 453.

No reply as to whether strike was successful or not.

Question in dispute was caused by check weighman.

Number 79. Strike began August 6th; ended August 11th.

Number of days lost, 5.

Number of people affected, 260.

Results, no arbitration; strike was not successful.

Question in dispute: "The election of a checkweighman and mining rate."

Number 151. Strikes began September 16th, ended September 17th; and October 16th, ended October 17th; and October 26th, ended October 29th; and July 26th, ended August 2nd; and November 29th, ended November 30th; and December 2nd, ended December 3rd.

Number of days lost, 14.

Number of people affected, 1,440.

Results: There were five strikes at different dates; two successful; two were not successful; one was amicably adjusted.

Question in dispute: "Handling mining tools sent out to be sharpened; men refused to work with a non-union man; men objected to their coal being weighed on a certain tipple; checkweighman was accused of tampering with the scales; union tried to compel company men and men employed outside the mine to pay dues to the union."

PRODUCTION OF BITUMINOUS COAL AND COKE.

This statement shows the number of tons of coal and coke produced in counties having coke ovens, value of coal mined and coke produced, people employed in mining and coking coal, average days in operation and yearly and daily wage.

Total number of corporations or firms reporting,	106
Total number of mines or opening,	342
Total tonnage (net) mined,	74,469,312
Total tonnage (net) of coal mined and shipped,	37,491,352
Total tonnage (net) of coal mined and consumed at plant,	1,857,870
Total tonnage (net) of coal mined and sold to local trade,	494,713
Total number of tons of coke produced,...	34,625,377

Market or realized value of coal mined and shipped f. o. b.,	\$44,767,047
Market or realized value of coal consumed at plant and sold to local trade,	2,060,003
Market or realized value of coke at plant,	\$50,040,427

Number of coke ovens in service,	45,127
Average number of days in operation,	279
Average number of people employed,*	85,668
Miners (pick),	30,575
Miners (machine),	19,623
Other inside men over 16 years,	13,482
Other inside workers under 16 years,	581
Outside workmen over 16 years,	9,050
Coke workmen,	12,578

Aggregate wages paid to all these working people,	\$53,131,575
Miners (pick),	\$19,418,676
Miners (machine),	10,314,203
Other inside men over 16 years of age,	10,212,183
Other inside workers under 16 years of age,	151,569
Outside workmen over 16 years of age,	5,783,213
Coke workers,	7,251,731

*In addition to the wage earners given these are employed in this industry 1,707 people in the capacity of superintendents, mine foremen, fire bosses, bookkeepers and clerks and some firms did not answer the question as to the number of superintendents, foremen and office force employed.

Average yearly earnings,	\$620 08
Miners (pick),	\$635 15
Miners (machine),	526 12
Other inside men over 16 years of age,	757 47
Other inside workers under 16 years of age,	260 87
Outside workmen over 16 years of age,	639 34
Coke workers,	586 85
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Average daily wage,	\$2 22
Miners (pick),	\$2 27
Miners (machine),	1 88
Other inside men over 16 years of age,	2 71
Other inside workers under 16 years of age,	93
Outside workmen over 16 years of age,	2 29
Coke workers,	2 10
<hr/>	
Tons of coal mined per miner for the year,	1,483
Average tonnage mined per day, each miner,	5.2
Tons of coal coked per man for the year,	2,802
Average price net ton, run of mine,	\$1 17
Average price per ton for coke at plant,	1 45
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LABOR SUPPLEMENT—COKE.

Statistical summary of employers, their number, nationality, number owning homes, average number of working hours per week, average yearly rent, number affected by strikes or lockouts.

Total number of companies reporting,	103
Number of companies reporting on labor blank,	98
Number of days lost by strike,	47
Number of employes affected by strike,	2,322
Number of employes who own homes,	2,419
Highest rent per annum reported,	\$108
Lowest rent per annum reported,	\$32
Average rent paid per annum,	\$52
Average working hours per week,	54
72 hours per week,	1
70 hours per week,	1
60 hours per week,	36

59 hours per week,	1
57 hours per week,	1
56 hours per week,	2
54 hours per week,	31
48 hours per week,	29
42 hours per week,	1
40 hours per week,	1
36 hours per week,	1
24 hours per week,	1

Total number of employees and their nationality as reported

(8 companies not reporting):

Slavonians,	8,185
Americans,	7,097
Italians,	5,972
Hungarians,	5,721
Polanders,	3,673
Austrians,	1,736
Germans,	1,476
English,	1,413
French,	869
Irish,	729
Swedes,	695
Russians,	662
Croatians,	607
Lithuanians,	510
Scotch,	493
Howats,	187
Welsh,	121
Negroes,	101
Norwegians,	100
Grauners,	87
Bohemians,	69
Finlanders,	63
Carinolas,	57
Roumanians,	38
Magyars,	13
Greeks,	12
Granoli,	12
Syrians,	8
Galatians,	7
Danes,	5
Turks,	4
Canadians,	2
Prussians,	1

Australians,	1
Servians,	1
Mixed,	12,094
Fatal accidents reported,	190
Serious accidents reported (not fatal),	585

SUMMARY OF THE CAUSES ASSIGNED (OTHER THAN STRIKES OR LOCKOUTS) FOR LOSS OF TIME IN THE COKE INDUSTRY.

Number of companies reporting no loss of time during 1907, except that caused by strikes or lockouts,	37
Number of companies giving no answer as to cause of loss of time, other than caused by strikes and lockouts,	19
Number of companies reporting loss of time caused by car shortage,	1
(Days lost by car shortage, 61.)	.
Number of companies reporting loss of time caused by lack of orders,	25
(Days lost by lack of orders, 676.)	
Number of companies reporting loss of time caused by repairing,	5
(Days lost making repairs, 112.)	
No. 12 reports "Idle 45 days on account of water, car shortage, repairs and holidays."	
No. 14 reports "Mine closed indefinitely."	
No. 22 reports "Idle about half time during November and December."	
No. 23 reports "Idle two and one-half months on account of lack of orders and flood."	
No. 25 reports "Idle 18 days in December."	
No. 42 reports "Idle 23 days on account of embargo."	
No. 45 reports "Idle part of November and December."	
No. 53 reports "Idle 31 days on account of water."	
No. 79 reports "One mine idle 8 months on account of construction work."	
No. 94 reports "Idle days on account of lack of orders and no electrical current and holidays."	
No. 100 reports "Mine closed down November and December."	
No. 104 reports "Idle 33 days on account of car shortage, repairs and lack of orders."	
No. 105 reports "Idle 12 days on account of fire."	
No. 640 reports "Idle on account of developing mine."	

IN RESPONSE TO AN INQUIRY BY THE BUREAU AS TO THE
CONDITION OF AFFAIRS IN DISTRICT NO. 2, MR. PATRICK
GILDAY, DISTRICT PRESIDENT OF UNITED MINE WORK-
ERS, REPORTED AS FOLLOWS:

"The coal business for the year ending December 31, 1907, was not very good; many of the mines were working but three to five days per week and a few operations worked full time all year.

"The winter trade is the best for this part of the bituminous region of Pennsylvania. All during the winters of 1907 and 1908, until March of this year, the trade was very poor; in fact, these were the two poorest winters the miners have experienced for about ten years.

"In the month of March, 1908, there was a revival of the trade and nearly all operations went on full time until April 1st. The miners and operators met in joint conference and renewed the old scale of prices and working conditions for the current year, beginning April 1, 1908, and ending March 31, 1909.

"On April 1st, after the miners and operators had signed the scale, many of the mines closed down and have not resumed operation at this date (June 6, 1908). Nearly six thousand (6,000) miners are totally idle in this district since April 1st until the present time and it is no fault of theirs; there is no demand for coal.

"We have two combinations of operators; one is known as the Coal Operators' Association of Central Pennsylvania, and the other as the Operators' Association of the Allegheny Valley. Contracts were entered into between the miners and the members of both associations without any trouble, the contracts being a renewal of the scale of 1907, and I herewith enclose you copies of both of these contracts.

"We, however, failed to make agreements with several operators who are not members of either of the Associations.

"At Morris Run the miners and operators failed to reach an agreement for the current year of 1908. The Morris Run Coal Company refused to renew the scale of 1907, asking for a reduction, as the enclosed letter will show. The miners refused to accept the offer of the coal company. The miners have been idle since and a strike declared to resist a reduction of wages. The mines are idle at present, with no prospects of a settlement being reached. Several attempts have been made to have the matter adjusted, but without success.

"At the Sunshine mine, South Fork, on the main line of the Pennsylvania Railroad, a suspension of work took place on April 9th of this year, as the company refused to pay the differential of four cents per ton extra for the low coal seam, which had been paid in past years. An agreement was reached on May 18th, between the

officials of the company and the officials of the Union, that all coal three feet thick and over be paid 66 cents per gross ton; all coal less than three feet thick be paid 70 cents per gross ton. The men resumed work on May 26th, under the above agreement.

"At the Drane colliery, operated by Mull & Co., near Osceola Mills, Pa., the company refused to weigh the miners' coal as delivered from the mine, and insisted that the miners load the coal by the mine car at the rate of 50 cents per car of 27 hundred weight. The miners demanded that their coal be weighed the same as it was at other mines and insisted that scales be placed on the tippie to weigh their coal as it came from the mine, and that they be paid at the rate of 66 cents per ton as at other mines. This the Mull Company refused to do. The miners ceased work and up until the present time (June 6, 1908) the mine is idle.

"At Strattonville, Elk county, the miners requested that they be paid the district price per ton; this the company refused to do, insisting that the miners at Strattonville work five cents per ton below the district price, and the other mines that had signed the scale. The miners refused to work for less than scale rates. The mine has been closed since April 1st, 1908, and at this date are still idle. At a few other small operations local disputes have occurred, but have been amicably adjusted within a few days."

Mr. Gilday further reported that the depression had left disastrous and demoralizing effects upon the miners, many of whom, owing to high prices of the means of life, and other conditions, has become destitute. They were willing to work but could not find employment. Some relief was given by county authorities, but the Miners' Union was the most conspicuous agency in preventing greater distress and actual suffering. It spent thousands of dollars in the relief of many families in want of the bare necessities of life, and its help was alleviating in many other ways, showing its general usefulness.

"Mr. M. McDougall, Supt., Morris Run, Pa.:

Dear Sir: The communication dated April 2d, 1908, prepared by the Scale Committee, came to hand duly, requesting shorter hours per day-wage and pay for overtime. A more important question confronting us is how to get any work at all.

"For the past thirty months I have tried by keeping our output at the highest possible point to maintain a cost of production giving a satisfactory margin. No men in the State have enjoyed fuller time. The average cost of production is gradually increasing from month to month, as you know.

"The existing differential in favor of Morris Run, as against Beech Creek District, gives the Morris Run men 40 per cent. more wages than miners in the Beech Creek district receive for practically the same average amount of work. This excess is composed of our higher mining rate per ton and our very much higher allowance for yardage or dead work.

"I would gladly continue these higher rates of wages if the business would support them, but they do not leave a sufficient return for the capital and energy involved in conducting the operation. It is necessary to figure out in some way a reduction in the cost of production. I do not see how the business can afford to pay more than 20 per cent. higher wages than the Beech Creek district pays, and am willing to continue to try to do that.

"It means 80c. per gross ton; Beech Creek men get 66c. It means one-half of the present yardage rates; Beech Creek men for the most part get no yardage.

"I make no demands, simply state facts of the present condition and leave it to the men whether the business shall die or live. The month of March is the customary time for selling coal by contract; that time has gone by for this current year.

"If we are to do any more mining at Morris Run, and for delivery on contracts during the year beginning April 1, 1909, we should be in a position by the first of March of that year to try to get them.

"Yours truly,

"(Signed) LOUIS P. MILLER,

"For The Morris Run Mines.

"There is no objection to showing this letter to the Scale Committee, and in that case it might be well to ask our friend Mr. Sexton to insert this letter in his paper, so that all interested may get the matter accurately at first hand."

CONDITIONS AND PRICES IN FORCE DURING 1907 TO 1908.

Eight hours of actual work at place of work shall constitute a day's work for all labor inside the mines, except pump men and monthly men, who shall work the number of hours required. It is understood and agreed, however, that the trip riders, motormen, drivers and cagers shall work the extra time required to clean up and deliver outside all coal gathered from working places to the side tracks within the eight hours of actual work, and shall be paid for such extra time worked at the rates per hour herein agreed upon. All outside labor to work the number of hours required and to be paid as per rates specified.

There is to be no change in working conditions and customs under this scale, from such conditions and customs as have applied at this mine and have been in practice thereat during the scale year.

Any regularly employed miner, may, at his option, authorize deductions of coal mined, for use of a checkweighman's fund such amount of coal as he may elect to subscribe, provided such authority is duly executed in writing by each individual miner, and such authorization releases the company from all liability on account thereof. There shall be no collection from day labor by the companies, from day labor working in mines or outside.

The collection of coal for checkweighman's fund shall be collected from sheets on tippie.

The right to hire and discharge, the management of the mine, and the direction of the working force, are vested exclusively in the operator, and the U. M. W. of A. shall not abridge that right. It is not the intention of this provision to encourage the discharge of employes, or the refusal of employment to applicants because of personal prejudice or activity affecting the U. M. W. of A.

Should differences arise under this agreement, between the employers and employes touching the proper interpretation of any of its provisions, there shall be no suspension of work on account thereof, but an earnest effort to settle such differences shall be made, first, through the local management at the mine and the mine Committee, and failing in this the matter shall, second, be presented to the General Manager or Owner and the District Officers of the United Mine Workers of America, and if settlement is not reached with said General Manager or Owner and District Officers, the question shall then, third, be referred to a permanent Board of Arbitrators consisting of two miners, or their representatives and two operators, or their representatives: they jointly failing to agree shall appoint an Umpire, who shall be neither an operator nor a miner, but whose decision shall be final under this agreement.

All outside labor engaged in the dumping and handling of coal, including mine carpenters and blacksmiths to work the hours required and to be paid the number worked.

That the employers shall not make a deduction for blacksmithing from the wages of the employes, unless he furnishes a blacksmith for that purpose.

That all mines located in Bennetts Branch shall pay sixty (60) cents per net ton for pick mining.

Wages:

Drivers per day, minimum,	\$2 40
Trappers per day, minimum,	\$1 00
Pick mining, per gross ton,	66
8—9—1907	

Pick mining, per net ton,	58.85
Machine loading, gross ton,	37.9
Machine loading, net ton,	33.6

WAGE SCALE AS ADOPTED.

That the contract made at DuBois, Pa., March 26th, 1907, between the Bituminous Operators' Association and the United Mine Workers of America be renewed and continued in its entirety for one year from April 1st, 1908 to March 31st, 1909. Adopted.

In witness whereof the parties hereto, by their several Scale Committees, have hereunto set their hands and seals.

United Mine workers of America, District No. 2, by its Scale Committee.

Association of Bituminous Coal Operators of Central Pennsylvania, by its Scale Committee.

ALLEGHENY VALLEY MINING SCALE.

Wage Agreement.

At East Brady, Pa., March 29, 1907.

It is hereby agreed, that the present scale of wages and conditions of employment be renewed, (with the following amendments), and continued for one year from April 1, 1907, to March 31, 1908.

Pick mining rate shall be,	59 cents per ton.
Machine loading rate shall be,..	33½ cents per ton.
Machine cutting rate for Puncher machines shall be,	13½ cents per ton.
Roadman,	30 cents per hour.
Assistant roadmen,	26½ cents per hour.
Pipe men,	26½ cents per hour.
Trappers,	13 cents per hour.
Drivers,	30 cents per hour.
Dumper,	20½ cents per hour.
Trimmer,	22½ cents per hour.
Assistant trimmer,	18½ cents per hour.
Blacksmith,	30 cents per hour.
Tool sharpener,	26½ cents per hour.
Fireman,	25½ cents per hour.
Checker,	26½ cents per hour.
Turning room,	1.50

Cut through between entries, .. 25 cents per yard.
Entry narrow, 1.50 to 2.00 per yd.
Entry gob, 1.00 per yard.
Nothing to be paid for room turning where no roof nor
bottom is taken.

First.—All other day wages and monthly men, both inside and outside the mines, shall be advanced 5.85 per cent. above the rates paid during the scale year ending March 31, 1906, excepting all mechanics and skilled labor, who are to be paid such prices as shall be mutually agreed upon between the undersigned and the mechanics employed.

Second.—Eight hours of actual work at place of work shall constitute a day's work for all labor inside the mines, except pump men and monthly men, who shall work the number of hours required. . It is understood and agreed, however, that the trip riders motormen, drivers, and cagers shall work the extra time required to clean up and deliver outside all coal gathered from working places to the side tracks within the eight hours of actual work, and shall be paid for such extra time worked at the rates per hour herein agreed upon. All outside labor to work the number of hours required and to be paid as per rates specified. No Saturday half holidays allowed under this agreement.

Third.—There is to be no change in working conditions and customs under this scale from such conditions and customs as have applied at this mine and have been in practice thereat during the scale year ending March 31, 1906, except as modified herein.

Fourth.—Any regularly employed miner may, at his option, authorize deductions of coal mined, for use of a Checkweighman's fund, such amount of coal as he may elect to subscribe, provided such authority is duly executed in writing by each individual miner, and such authorization releases the company from all liability on account thereof. There shall be no collection from day labor by the companies, from day labor working in mines or outside. The collection of coal for Checkweighman's fund shall be collected from sheets on tipple.

Fifth.—The right to hire and discharge, the management of the mine, and the direction of the working force are vested exclusively in the operator, and the U. M. W. of A. shall not abridge that right. It is not the intention of this provision to encourage the discharge of employes, or the refusal of employment to applicants because of personal prejudice or activity in matters affecting the U. M. W. of A. The acceptance of this agreement shall in no way interfere with present employees.

Sixth.—Should differences arise under this agreement, between

the employers and employees, there shall be no suspension of work on account thereof, but an earnest effort to settle such differences shall be made, first through the local management at the mine and the Mine Committee, and failing in this, the matter shall, second, be presented to the General Manager or Owner and the District Officers of the United Mine Workers of America, and if settlement is not reached with said General Manager or Owner and District Officers the question shall then, third, be referred to a permanent Board of Arbitrators, consisting of two miners or their representatives, and two operators or their representatives; they jointly failing to agree shall appoint an umpire, who shall be neither a miner nor an operator but whose decision shall be final in the interpretation of the question at issue.

Amendments.—Cross-cuts between entries shall be paid 25 cents per yard for the first ten yards from either side. Over ten yards from either side, extra price to be agreed upon.

Chain-machine men, for cutting, motormen, spragers and cagers shall receive the same wages and conditions during the life of this agreement as they did during the year 1906.

It is mutually agreed that the employer shall not make a deduction for blacksmithing from the wages of employees, unless he shall furnish a blacksmith for that purpose.

TOTAL PRODUCTION OF BITUMINOUS COAL IN ALL COUNTIES, 1907.—SHOWING TONNAGE, VALUE, PERSONS EMPLOYED, WAGES PAID, ETC.

Total number of mines or openings reported,	1,073
Total number of tons (net) mined,	149,390,965
Total number of tons (net) shipped,....	109,992,709
Total number of tons (net) consumed at plant,	3,472,468
Total number of tons (net) sold to local trade,	1,300,411
Total number of tons coke produced, ...	34,625,377
<hr/>	
Total value of production,	174,035,853
Market or realized value of coal shipped f. o. b.,	119,442,518
Market or realized value of coal consumed and sold to local trade,.....	\$4,552,908
Market or realized value of coke at plant,	\$50,040,427
<hr/>	

Average number of days in operation,

Average number of people employed,	175,271
Miners (pick),	68,081
Miners (machine),	50,034
Other inside workmen over 16 years,...	25,915
Other inside workmen under 16 years, ..	1,025
Outside workmen over 16 years,	17,828
Outside workmen under 16 years,	31
Number of coke workers,	12,578
<hr/>	
Aggregate wages paid to all employes not including superintendents or office force,	\$105,760,578
Miners (pick),	\$40,937,558
Miners (machine),	27,037,259
Other inside workmen over 16 years,...	18,662,816
Other inside workmen under 16 years, ..	259,710
Outside workmen over 16 years,	11,598,319
Outside workmen under 16 years,	13,185
Coke workers,	7,251,731
<hr/>	
Average yearly wage,	\$603 72
Miners (pick),	\$601 91
Miners (machine),	540 27
Other inside workmen over 16 years, ...	721 37
Other inside workmen under 16 years, ..	255 77
Outside workmen over 16 years,	650 16
Outside workmen under 16 years,	425 32
Coke workers,	586 85
<hr/>	
Average daily wage,	\$2 25
Miners (pick),	\$2 24
Miners (machine),	2 01
Other inside workmen over 16 years,...	2 31
Other inside workmen under 16 years, ..	95
Outside workmen over 16 years,	2 42
Outside workmen under 16 years,	1 58
Coke workers,	2 19
<hr/>	
Tons of coal produced per miner for the year,	1,265
Average tonnage mined per day, each miner,	4.7
Average price net, run of mines,	\$1 18
Average value of production for each employe,	\$852 34
<hr/>	

TEXTILE INDUSTRIES IN PHILADELPHIA, IN 1907 AND 1906.

This statement is a summary, and covers all the reports that are classified and published separately under their several heads.

	1907.	1906.
Number of establishments considered,	639	668
Total number of looms,	28,151	.....
Capital invested (realty, machinery and working capital),	\$75,517,539	\$73,362,158
Market value of production,	\$130,508,116	\$128,058,603
Average number of days in operation,	289	292
Average number of wage earners employed,	62,293	66,377
Males,	25,976	28,041
Females,	31,246	32,783
Minors,	5,071	5,553
<hr/>		
Aggregate amount of wages paid,	\$26,778,586	\$29,363,863
Males,	\$14,638,340	\$16,346,080
Females,	11,102,377	11,901,033
Minors,	1,037,869	1,116,750
<hr/>		
Average yearly earnings in this industry,	\$429 88	\$442 38
Males,	\$568 53	\$582 93
Females,	355 32	363 02
Minors,	204 66	201 09
<hr/>		
Average daily wages,	\$1 49	\$1 51
Males,	\$1 95	\$1 99
Females,	1 23	1 24
Minors,	71	69
<hr/>		
Average value of production,	\$2,094 99	\$1,929 11

MANUFACTURE OF COTTON GOODS IN PHILADELPHIA, 1907 AND 1906.

	1907.	1906.
Number of establishments considered,	91	93
Capital invested (realty, machinery and working capital),	\$8,577,780	\$7,320,523
Market value of production,	\$13,377,174	\$13,058,806
Average number of days in operation,	295	292
Average number of wage earners employed,	6,887	7,203
Males,	2,408	2,723
Females,	4,148	4,077
Minors,	331	403

Aggregate amount of wages paid,	\$3,039,370	\$3,117,569
Males,	\$1,475,053	\$1,583,666
Females,	1,491,906	1,447,347
Minors,	72,412	86,556
<hr/>		
Average yearly earnings in this industry,	\$441 32	\$432 82
Males,	\$612 56	\$581 22
Females,	359 67	335 00
Minors,	218 77	214 78
<hr/>		
Average daily wage,	\$1 49	\$1 48
Males,	\$2 06	\$1 99
Females,	1 22	1 22
Minors,	74	74
<hr/>		
Average value produced by each employee,	\$1,942 38	\$1,812 97

Production in given quantity:

321,811 dozen, towels; 10,000 pounds, tinsel; 185,315 coverlets; 700,000 yards, tapes and narrow fabrics; 20,000 pounds, cordage; 2,606,628 yards, table cloth; 95,181 pairs curtains; 74,000 dozen underwear; 166,000 yards, eiderdown; 6,017 dozen, hammocks; 912,476 gross, tape; 98,000 spool, tape; 595,361 pounds, tape; 600,000 pounds, narrow fabrics; 200,000, blankets; 1,198,000 pounds, yarn; 50,000 pounds, netting; 70,000,000 yards, tape and binding; 1,200,000 yards, cassimere; 84,000 dozen, shirts; 30,284 gross, silk and cotton tape; 98,250, yards ticking; 150 bales tape; 11,563 table covers; 1,250,000 pounds, fibre; 78,540 yards, shoe cloth; 5,233,540 yards, covers; 223 bales, curtains, table and couch covers; 3,684,000 yards, shirting; 1,454,589 pounds, thread; 165,000 pounds, cotton tufts; 1,250,000 pounds, fibre; 78,540 yards, shoe cloth; 5,233,540 yards, cotton and woolen goods; 7,656,674 yards, dress goods; 4,416 couch covers; 349,400 yards, curtains; 410,000 yards, netting; 30,260 pounds, carpet warp; 50,000 gross, braid; 90,000 yards, terry cloth; 14,000 pieces, shirting and dress goods; 9,000 pounds, elastic cord; 11,000 pounds, gimp and tassel cord; 1,750,000 pounds, felt; 15,000 mattresses; 12,000 pounds, cotton novelties; 60,000 packages, cotton tuft; 450,000 yards, upholstery specialties; 245,841 yards, cotton velvets.

MANUFACTURE OF COTTON AND WOOLEN WASTE AND SHODDY, IN PHILADELPHIA 1907 AND 1906.

	1907.	1906.
Number of establishments considered,	21	8
Capital invested (realty, machinery and working capital),	\$1,056,778	\$276,000
Market value of production,	2,093,127	682,500
Average number of days in operation,	290	306
Average number of wage earners employed,	358	172
Males,	302	152
Females,	50	20
Minors,	6	
<hr/>		
Aggregate amount of wages paid,	\$161,012	\$80,527
Males,	\$148,638	\$75,084
Females,	11,007	5,443
Minors,	1,367	
<hr/>		
Average yearly earnings in this industry,	\$449 71	\$468 12
Males,	\$492 18	\$492 97
Females,	220 14	272 15
Minors,	227 08	
<hr/>		
Average daily wage,	\$1 55	\$1 53
Males,	\$1 70	\$1 61
Females,	76	89
Minors,	78	
<hr/>		
Average value production by each employee,	\$5,846 72	\$3,968 02

Production in given quantity:

30,924,377 pounds, waste, shoddy and mattress material; 2,000 bales wiping and packing waste.

MANUFACTURE OF COTTON AND WOOL YARNS IN PHILADELPHIA, 1907 AND 1906.

	1907.	1906.
Number of establishments considered,	69	74
Capital invested (realty, machinery and working capital),	\$13,532,396	\$13,257,523
Market value of production,	22,653,151	20,539,097
Average number of days in operation,	292	290
Average number of wage earners employed,	8,017	8,349
Males,	2,934	2,933
Females,	4 140	4,271
Minors,	943	1,145

Aggregate amount of wages paid,	\$2,914,454	\$3,131,658
Males,	\$1,463,919	\$1,573,257
Females,	1,236,515	1,298,465
Minors,	223,720	259,936
<hr/>		
Average yearly earnings in this industry,	\$363 53	\$375 81
Males,	\$498 95	\$536 40
Females,	296 33	304 02
Minors,	238 30	227 02
<hr/>		
Average daily wage,	\$1 24	\$1 29
Males,	\$2 10	\$1 85
Females,	1 02	1 05
Minors,	82	78
<hr/>		
Average value produced by each employe,	\$2,825 64	\$2,460 07

Production in given quantity:

58,478,570 pounds, yarn; 1,437,296 yards, ticking.

MANUFACTURE OF CARPETS AND RUGS AND COTTON
GOODS IN PHILADELPHIA, 1907 AND 1906.

	1907.	1906.
Number of establishments considered,	88	100
Capital invested (realty, machinery and working capital),	\$16,906,397	\$17,718,828
Market value of production,	24,790,343	27,528,364
Average number of days in operation,	284	285
Average number of wage earners employed,	10,689	12,344
Males,	6,141	6,976
Females,	4,029	4,788
Minors,	519	580
<hr/>		
Aggregate amount of wages paid,	\$4,946,621	\$5,747,862
Males,	\$3,292,782	\$3,841,095
Females,	1,547,283	1,803,995
Minors,	106,556	102,772
<hr/>		
Average yearly earnings in this industry,	\$462 78	\$465 64
Males,	\$536 20	\$550 62
Females,	384 04	376 77
Minors,	205 31	177 19

Average daily wage,	\$1 63	\$1 63
Males,	\$1 89	\$1 93
Females,	1 35	1 32
Minors,	72	62
<hr/>		
Average value produced by each employe,	\$2,319 23	\$2,230 10

Production in given quantity:

60,578 dozen, towels; 125,819 yards, toweling; 291,899 rugs; 15,400 art squares; 1,410,637 pounds, carpet yarn; 33,093,330 yards; carpet.

DYERS, BLEACHERS AND FINISHERS IN PHILADELPHIA,
1907 AND 1906—THAT GIVE VALUE OF PRODUCTION.

	1907.	1906.
Number of establishments considered,	60	57
Capital invested (realty, machinery and working capital),	\$3,720,049	\$2,848,072
Market value of production,	4,644,992	3,733,516
Average number of days worked,	280	291
Average number of wage earners employed,	2,806	2,254
Males,	2 310	1,885
Females,	351	252
Minors,	145	117
<hr/>		
Aggregate amount of wages paid,	\$1,442,625	\$1,129,152
Males,	\$1,274,047	\$1,014,443
Females,	127,430	87,200
Minors,	\$1,148	27,509
<hr/>		
Average yearly earnings in this industry,	\$514 12	\$500 95
Males,	\$551 54	\$538 17
Females,	391 54	346 08
Minors,	214 81	235 12
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Average daily wage,	\$1 83	\$1 69
Males,	\$1 97	\$1 85
Females,	1 40	1 19
Minors,	77	87
<hr/>		
Average value produced by each employe,	\$1,655 38	\$1,656 40

Production in given quantity:

23,548,109 yards, cotton and woolen goods; 58,657,938 pounds, yarn; 455,500 dozen, hosiery.

DYERS, BLEACHERS AND FINISHERS IN PHILADELPHIA, 1907 AND 1906.

NO VALUE OF PRODUCTION GIVEN AS THESE CONCERNS DO WORK ON
COMMISSION. THE TEXTILE MANUFACTURER FURNISHES THE RAW
MATERIAL AND WEAVES IT AFTER IT IS FINISHED.

	1907.	1906.
Number of establishments considered,	23	31
Capital invested (realty, machinery and working capital),	\$740,979	\$1,264,520
Number of days in operation,	285	294
Average number wage earners employed,	465	1,040
Males,	410	906
Females,	39	72
Minors,	16	62
<hr/>		
Aggregate amount of wages paid,	\$237,298	\$517,932
Males,	\$216,621	\$485,036
Females,	13,986	17,593
Minors,	6,691	15,303
<hr/>		
Average yearly earnings in this industry,	\$510 32	\$498 01
Males,	\$528 34	\$535 36
Females,	358 62	244 35
Minors,	418 18	246 82
<hr/>		
Average daily wage,	\$1 79	\$1 69
Males,	\$1 85	\$1 84
Females,	1 26	95
Minors,	1 47	89

Production in given quantity:

2,259,000 pounds, yarn; 90,000 pieces, cotton and woolen goods;
7,400,000 yards of cotton and woolen goods.

MANUFACTURE OF HOSIERY IN PHILADELPHIA IN 1907 AND 1906.

	1907.	1906.
Number of establishments considered,	87	33
Capital invested (realty, machinery and working capital),	\$7,007,143	\$6,332,444
Market value of production,	13,634,662	11,855,014
Average number of days in operation,	294	289
Average number of wage earners employed,	10,836	10,895
Males,	2,208	2,213
Females,	7,141	7,133
Minors,	1,487	1,459

Aggregate amount of wages paid,	\$4,269,848	.....	\$4,744,170
Males,	\$1,430,882	.....	\$1,826,622
Females,	2,568,200	.....	2,615,081
Minors,	270,766	.....	302,467
<hr/>			
Average yearly earnings in this industry,	\$394 33	.....	\$435 44
Males,	\$648 04	.....	\$825 40
Females,	359 64	.....	363 56
Minors,	182 09	203 13
<hr/>			
Average daily wage,	\$1 34	\$1 51
Males,	\$2 20	\$2 86
Females,	1 22	1 26
Minors,	62	70
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Average value produced by each employe,	\$1,259 20	\$1,068 11

Production in given quantity:
10,598,916 dozen pairs hosiery.

MANUFACTURE OF KNIT GOODS, UNDERWEAR, ETC., IN PHILADELPHIA, 1907 AND 1906.

	1907.	1906.
Number of establishments considered,	53	64
Capital invested (realty, machinery and working capital),	\$3,590,822	\$3,827,918
Market value of production,	6,749,891	6,406,416
Average number of days in operation,	286	293
Average number of wage earners employed,	4,241	4,628
Males,	958	1,101
Females,	2,984	3,230
Minors,	299	297
<hr/>		
Aggregate amount of wages paid,	\$1,594,878	\$1,700,803
Males,	\$554,266	\$606,006
Females,	974,787	1,042,803
Minors,	65,825	51,994
<hr/>		
Average yearly earnings in this industry,	\$376 06	\$367 50
Males,	\$578 56	\$550 41
Females,	323 32	322 85
Minors,	220 15	175 06

Average daily wage,	\$1 31	\$1 26
Males,	\$2 02	\$1 88
Females,	1 13	1 14
Minors,	77	67
<hr/>		
Average value of production,	\$1,591 58	\$1,384 27

Production in given quantity:

645,204 dozen, underwear; 670,851 dozen, knit goods; 103,000 pounds, knit goods; 4,179 dozen; bathing suits; 10,000 yards, eider-down; 21,000 dozen, tights; 14,202 yards, astrakan; 5,600 dozen, coats; 101,364 dozen, gloves; 23,480 dozen, sweaters; 1,000 dozen, hosiery; 500 dozen, neckties; 2,845 dozen, jackets.

MANUFACTURE OF LACE GOODS—CURTAINS AND EDGINGS IN PHILADELPHIA IN 1907 AND 1906.

	1907.	1906.
Number of establishments considered,	6	5
Capital invested (realty, machinery and working capital),	\$1,453,347	\$1,384,786
Market value of production,	1,999,474	2,783,851
Average number of days in operation,	249	296
Average number of wage earners employed,	942	955
Males,	433	462
Females,	466	425
Minors,	43	68
<hr/>		
Aggregate amount of wages paid,	\$466,985	\$539,580
Males,	\$294,903	\$352,558
Females,	163,828	181,204
Minors,	8,354	15,818
<hr/>		
Average yearly earnings in this industry,	\$495 74	\$565 00
Males,	\$680 84	\$763 11
Females,	351 56	402 83
Minors,	194 28	332 61
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Average daily wage,	\$1 99	\$1 91
Males,	\$2 73	\$2 84
Females,	1 41	1 52
Minors,	78	88
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Average value produced by each employe,	\$2,122 58	\$2,915 02

Production in given quantity:

7,944,770 yards, lace curtains; 358,000 gross yards, lace trimmings; 1,375,538 pairs, lace curtains.

MANUFACTURE OF MISCELLANEOUS PRODUCTS IN PHILADELPHIA, 1907 AND 1906.

BELONGS TO THE TEXTILE INDUSTRY, BUT NOT OTHERWISE CLASSIFIED.

	1907.	1906.
Number of establishments considered,	7	8
Capital invested (realty, machinery and working capital),	\$322,606	\$118,635
Market value of production,	359,590	397,242
Average number of days in operation,	285	297
Average number of wage earners employed,	203	286
Males,	103	143
Females,	88	126
Minors,	12	17
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Aggregate amount of wages paid,	\$77,072	\$114,907
Males,	\$48,575	\$73,945
Females,	25,784	37,749
Minors,	2,713	3,213
<hr/>		
Average yearly earnings in this industry,	\$379 66	\$401 77
Males,	\$471 60	\$517 10
Females,	293 00	299 60
Minors,	226 08	189 00
<hr/>		
Average daily wage,	\$1 33	\$1 85
Males,	\$1 65	\$1 75
Females,	1 03	1 06
Minors,	79	65
<hr/>		
Average value produced by each employe,	\$1,771 38	\$1,388 96

Production in given quantity:

328 Jacquard machines; 125,000 gross yards, millinery wires; 150,000 dozen, millinery wires; 50,000 insulated wires; 859,467 gas mantles.

MANUFACTURE OF SILK GOODS IN PHILADELPHIA IN 1907 AND 1906.

	1907.	1906.
Number of establishments considered,	25	24
Capital invested (realty, machinery and working capital),	\$2,968,827	\$2,676,264
Market value of production,	6,475,988	5,942,307
Average number of days in operation,	301	296

Average number of wage earners employed,	2,646	2,635
Males,	751	759
Females,	1,749	1,706
Minors,	146	170
<hr/>		
Aggregate amount of wages paid,	\$1,067,628	\$1,348,983
Males,	\$456,337	\$480,761
Females,	577,343	838,287
Minors,	33,448	29,934
<hr/>		
Average yearly earnings in this industry,	\$408 49	\$511 95
Males,	\$608 30	\$633 41
Females,	330 16	491 37
Minors,	229 09	176 06
<hr/>		
Average daily wage,	\$1 34	\$1 73
Males,	\$2 02	\$2 15
Females,	1 10	1 67
Minors,	76	64
<hr/>		
Average value produced by each employe,	\$2,447 46	\$2,255 14

Production in given quantity:

39,926,955 yards, ribbon; 2,726,215 yards, broad silk; 28,480 pounds, ribbon; 74,948 pounds, thread; 686,171 labels for men's hats.

MANUFACTURE OF UPHOLSTERY AND DRAPERY GOODS IN PHILADELPHIA IN 1907 AND 1906.

	1907.	1906.
Number of establishments considered,	38	37
Capital invested (realty, machinery and working capital),	\$3,585,525	\$3,581,986
Market value of production,	6,748,890	6,303,541
Average number of days in operation,	294	294
Average number of wage earners employed,	3,171	3,370
Males,	1,748	1,887
Females,	1,289	1,334
Minors,	124	149
<hr/>		
Aggregate amount of wages paid,	\$1,546,224	\$1,664,066
Males,	\$1,047,202	\$1,160,198
Females,	472,754	474,722
Minors,	26,268	29,146
<hr/>		
Average yearly earnings in this industry,	\$487 61	\$493 79
Males,	\$599 09	\$614 84
Females,	363 93	355 86
Minors,	211 83	195 61

Average daily wage,	\$1 06	\$1 68
Males,	\$2 04	\$2 12
Females,	1 24	1 23
Minors,	72	68
<hr/>		
Average value produced by each employe,	\$2,128 32	\$1,870 49

Production in given quantity:

9,337,752 yards, upholstery goods; 71,500 pairs curtains; 1,846,249 pounds, upholstery goods; 14,415 dozen, table and couch covers.

MANUFACTURE OF WOOLEN AND WORSTED GOODS IN PHILADELPHIA IN 1907 AND 1906.

	1907.	1906.
Number of establishments considered,	71	79
Capital invested (realty, machinery and working capital),	\$12,064,896	\$12,029,509
Market value of production,	26,975,834	28,544,649
Average number of days in operation,	286	299
Average number of wage earners employed,	11,030	12,178
Males,	5,268	5,835
Females,	4,762	5,287
Minors,	1,000	1,056
<hr/>		
Aggregate amount of wages paid,	\$5,014,570	\$5,494,885
Males,	\$2,934,714	\$3,242,055
Females,	1,891,255	2,060,728
Minors,	188,601	192,102
<hr/>		
Average yearly earnings in this industry,	\$454 63	\$451 21
Males,	\$557 08	\$555 63
Females,	397 16	389 77
Minors,	188 60	181 91
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Average daily wage,	\$1 59	\$1 51
Males,	\$1 94	\$1 87
Females,	1 39	1 30
Minors,	66	61
<hr/>		
Average value produced by each employe,	\$2,445 68	\$2,343 95

Production in given quantity:

40,144,172 yards, woolen worsted goods; 90,686 shawls; 10,012 caps; 6,844 horse blankets; 8,437,615 pounds, wool stock, shoddy, blanks and yarns.

COMPARISON OF TEXTILE INDUSTRIES IN PHILADELPHIA FOR 1905, 1906, 1907.

Years.	Number of establishments considered.	Totals.	Increase (+) or decrease (—) compared with the preceding year.		Increase (+) or decrease (—) 1907 as compared with 1905.		
			Amounts.	Percentages.	Amounts.	Percentages.	
VALUE OF PRODUCTION.							
1905,	487	\$99,871,008	\$	.....	\$	.....
1906,	668	128,068,603	+28,387,600	+28.5	.....	.....
1907,	639	130,503,116	+2,444,513	+1.9	+30,832,113	+30.9	
WAGE EARNERS EMPLOYED.							
1905,	487	54,834	.....	.....	.....	.....
1906,	668	66,377	+11,543	+21.5	.....	.....
1907,	639	62,293	—4,084	—6.1	+7,459	+12.6	
AGGREGATE WAGES PAID.							
1905,	487	22,571,872	.....	.....	.....	.....
1906,	668	29,363,863	+6,791,991	+30.9	.....	.....
1907,	639	26,778,586	+2,585,277	+8.8	+4,206,714	+18.6	
AVERAGE YEARLY EARNINGS.							
1905,	487	411 64	.....	.....	.....	.....
1906,	668	442 38	+30 74	+7.5	.....	.....
1907,	639	429 88	—12 50	—2.8	+18 24	+4.4	
AVERAGE DAILY WAGE.							
			Cents.		Cents.		
1905,	487	1 46	.....	.....	.....	.....
1906,	668	1 51	+ .05	+3.4	.....	.....
1907,	639	1 49	— .02	—1.3	+ .08	+2.0	
NUMBER OF DAYS EMPLOYED.							
1905,	487	281	.....	.....	.....	.....
1906,	668	292	+11	+3.9	.....	.....
1907,	639	289	— .03	—1.1	+ .08	+2.8	

LABOR SUPPLEMENT—MANUFACTURE OF COTTON GOODS,

Number of employes who own their homes,	121
Highest rent per annum,	\$218
Lowest rent per annum,	\$84
Average rent paid per annum,	\$160
Average working hours per week,	58
Working hours per week in 49 mills,	60
Working hours per week in 4 mills,	59
Working hours per week in 6 mills,	58
Working hours per week in 22 mills,	57
Working hours per week in 1 mill,	56
Working hours per week in 4 mills,	55
Working hours per week in 1 mill,	52
Working hours per week in 2 mills,	50
Working hours per week in 1 mill,	48
Working hours per week in 1 mill,	45
Working hours per week in 1 mill,	44
Accidents during the year,	17
Nationality of employes reported,	4,484

Americans,	3,610
Irish,	260
Germans,	239
English,	188
Polanders,	143
Italians,	56
Scotch,	45
Negroes,	20
Hebrews,	11
Russians,	4
Swedes,	4
French,	2
Norwegian,	1
Hessian,	1

DAYS LOST BY STRIKES IN THE MANUFACTURE OF COTTON
GOODS IN PHILADELPHIA IN 1907.

Number 1,042. Report 10 days lost by strike. "Was strike successful? Yes.". Question in dispute: The recognition of the union and involving the application of union wage scale. Number affected by strike, 52.

TRADE CONDITION IN THE TEXTILE INDUSTRY IN PHILA- DELPHIA.

MANUFACTURE OF HOSIERY.

Number of employes that own their own homes,	123
Average rent paid per annum,	\$163
Highest rent per annum,	\$216
Lowest rent per annum,	\$84
Average working hours per week,	58
Working hours per week in 52 mills,	60
Working hours per week in 3 mills,	59
Working hours per week in 5 mills,	58
Working hours per week in 9 mills,	57
Working hours per week in 3 mills,	56
Working hours per week in 8 mills,	55
Working hours per week in 2 mills,	52
Working hours per week in 1 mill,	51
Working hours per week in 3 mills,	50
Working hours per week in 1 mill,	48
Serious accidents in this industry,	3
Nationality of employes as given,	6,838
Americans,	5,696
Germans,	492
English,	308
Irish,	155
Hebrews,	68
Russians,	50
Polish,	29
Foreigners not otherwise classified,	28
Italians,	9
French,	1
Welsh,	1
Danish,	1

MANUFACTURE OF KNIT GOODS—UNDERWEAR, ETC.

Number of employes who own their homes,	45
Average rent paid per annum,	\$172
Highest rent per annum,	\$216
Lowest rent per annum,	\$120
Forty-three firms do not report on rent per annum.	
Average working hours per week,	57
Working hours per week in 17 mills,	60
Working hours per week in 5 mills,	58
Working hours per week in 10 mills,	57
Working hours per week in 4 mills,	56
Working hours per week in 6 mills,	55
Working hours per week in 3 mills,	54
Working hours per week in 1 mill,	52
Working hours per week in 4 mills,	50
Working hours per week in 1 mill,	44
Serious accidents,	2
Number and nationality of employes,	3,774
Americans,	3,353
Russians,	90
Brittish,	84
Hebrews,	70
Irish,	68
Germans,	51
English,	50
Polish,	7
Italians,	1

MISCELLANEOUS PRODUCTS IN PHILADELPHIA.

Number of employes that own their homes,	5
Average house rent paid per annum,	\$153
Highest house rent paid per annum,	\$192
Lowest house rent paid per annum,	\$120
Three firms do not report on rent per annum.	
Average working hours per week,	57
Working hours per week in 1 mill,	60
Working house per week in 3 mills,	57
Working hours per week in 3 mills,	55

NATIONALITY.

Nationality of employes as given,	60
Americans,	52
German,	6
Hebrews,	2

TRADE CONDITIONS—DYERS, BLEACHERS AND FINISHERS
IN PHILADELPHIA.

Number of employes that own their homes,	139
Average rent paid per annum,	\$144
Highest rent paid per annum,	\$204
Lowest rent paid per annum,	\$84
Twenty-five firms do not report on rent per annum.	
Average working hours per week,	58
Working hours per week in 38 mills,	60
Working hours per week in 1 mill,	59
Working hours per week in 4 mills,	58
Working hours per week in 5 mills,	57
Working hours per week in 9 mills,	55
Working hours per week in 1 mill,	44
Working hours per week in 2 mills,	40
Fatal accidents,	7
Serious accidents,	6
Nationality of employes,	1,913
Americans,	1,367
Germans,	267
English,	82
Italians,	68
Irish,	60
Polish,	46
Swiss,	10
Hungarian,	5
French,	3
Austrians,	2
Hebrew,	1
Greek,	1
Scotch,	1

NUMBER OF DAYS LOST BY STRIKES IN THE DYERS AND BLEACHERS BUSINESS IN PHILADELPHIA, 1907.

Number 1336. Report 7 days lost by strike. Number affected by strike, 75. Was strike successful? Yes. Date beginning strike, March 4, 1907. Date ending strike March 9, 1907. Question in dispute: An increase of one dollar per week in the pay of men classed as dyers.

LABOR SUPPLEMENT.

WOOLEN AND WORSTED GOODS, SHAWLS, CAPS AND HORSE BLANKETS, ETC.

Number of employes who own their homes,	538
Average rent paid per annum,	\$160
Highest rent paid per annum,	\$268
Lowest rent paid per annum,	\$120
Serious accidents,	11
Fatal accidents,	1
Days idle by reason of lack of orders,	294
Average working hours per week,	58
Working hours per week in 18 mills,	60
Working hours per week in 4 mills,	59
Working hours per week in 4 mills,	58
Working hours per week in 44 mills,	57
Working hours per week in 1 mill,	55
Number of employes and their nationality,	7,505
Americans,	5,016
English,	769
Irish,	470
Polish,	381
Germans,	275
French,	218
Italians,	177
Hebrews,	84
Russians,	43
Scotch,	23
Swedes,	11
Armenians,	11
Belgians,	9
Hungarians,	10
Austrians,	3
Welsh,	3
Swiss,	2
Norwegians,	1

STRIKES IN THE WOOLEN AND WORSTED INDUSTRY.

Number 1565 reports:

Days lost by strike, 16.

Number affected by strike, 172.

Strike was not successful.

Date beginning of strike February 27, 1907.

Date ending of strike March 16, 1907.

Question involved in dispute: Weavers wanted an increase in wages of 10 per cent.

Number 1564 reports:

Days lost by strike, 60.

Number affected by strike, 98.

Strike was not successful.

Date beginning of strike February 22, 1907.

Pickets disappeared gradually during August and September.

Question in dispute: Increase of wages granted, after that, union demanded recognition, denying us the right to employ and discharge hands, without the union consent, this was refused and union not recognized.

TRADE CONDITIONS IN THE TEXTILE INDUSTRY IN PHILADELPHIA, 1907.

MANUFACTURE OF LACE-CURTAINS AND EDGINGS.

Number of employes that own their own homes,	9
Average rent paid per annum,	\$180
Highest rent paid per annum,	\$180
Lowest rent paid per annum,	\$180
Four firms do not report on rent paid per annum.	
Average working hours per week,	58
Working hours per week in 3 mills,	60
Working hours per week in 1 mill,	57
Working hours per week in 2 mills,	55
Accidents in this industry,	3
Nationalty of employes,	906
Americans,	906

LACE CURTAINS AND EDGINGS.

Number of days lost by strikes, number affected by strike, date beginning of strike and ending of strikes and questions involved in dispute.

Number 1468 reports:

Days lost by strike, 39.

Number affected by strike, 816.

Date beginning of strike March 7, 1907.

Date ending of strike April 22, 1907. Arbitrated.

Question involved in dispute: Members asked for advance ranging from 5 per cent. to 15 per cent. Were offered 5 per cent. but would not accept it, and struck shutting down whole mill. Came back to work for 5 per cent. advance until June 1, and then change in piece rates which netted them about 2 per cent. over prices paid prior to strike.

TRADE CONDITIONS IN THE TEXTILE INDUSTRY IN PHILADELPHIA, 1907.

MANUFACTURE OF UPHOLSTERY AND DRAPERY.

Number of employes that own their own homes,	40
Average rent paid per annum,	\$150
Highest rent paid per annum,	\$180
Lowest rent paid per annum,	\$132
Twenty-three firms do not report on rent per annum.	
Average working hours per week,	58
Working hours per week in 14 mills,	60
Working hours per week in 1 mill,	58
Working hours per week in 20 mills,	57
Working hours per week in 1 mill,	56
Working hours per week in 1 mill,	55
Working hours per week in 1 mill,	54
Accidents,	3
Nationality of employes,	2,490
Americans,	1,459
English,	385
Germans,	180
Irish,	163
Foreigners, not classified,	138
Hebrews,	58
Scotch,	55

Polish,	42
Italians,	8
French,	1
Armenians,	1

TRADE CONDITIONS IN THE TEXTILE INDUSTRY IN PHILADELPHIA, 1907.

MANUFACTURE OF SILK GOODS.

Number of employes that own their own homes,	10
Average rent paid per annum,	\$158
Highest rent paid per annum,	\$192
Lowest rent paid per annum,	\$72
Average working hours per week,	58
Working hours per week in 10 mills,	60
Working hours per week in 1 mill,	59
Working hours per week in 2 mills,	58
Working hours per week in 6 mills,	57
Working hours per week in 1 mill,	56
Working hours per week in 3 mills,	55
Working hours per week in 1 mill,	57
Fatal accidents,	1
Serious accidents,	1
Nationality of employes as given,	1,342
Americans,	1,211
Germans,	54
English,	7
Italians,	7
Irish,	30
Austrians,	10
Swiss,	10
Hungarian,	1
Foreigners, (kind not given),	10
French,	1
Polish,	1

TRADE CONDITIONS IN COTTON AND WOOL YARNS IN
PHILADELPHIA, 1907.

MANUFACTURE OF COTTON AND WOOL YARNS.

Number of employes that own their homes,	85
Average rent paid per annum,	\$156
Highest rent per annum,	\$192
Lowest rent per annum,	\$108
Average working hours per week,	59
Working hours per week in 52 mills,	60
Working hours per week in 1 mill,	59
Working hours per week in 14 mills,	57
Working hours per week in 1 mill,	55
Fatal accidents,	2
Serious accidents,	16
Nationality of employes,	5,053
Americans,	4,160
Polish,	291
English,	216
Irish,	181
Italians,	89
German,	62
Russians,	29
Scotch,	10
Swedes,	9
Austrian,	3
Negroes,	3

TRADE CONDITIONS IN THE TEXTILE INDUSTRY IN PHILA-
DELPHIA, 1907.

MANUFACTURE OF COTTON, WOOLEN WASTE, AND SHODDY.

Number of employes who own their homes,	7
Average rent paid per annum,	\$130
Highest rent paid per annum,	\$180
Lowest rent paid per annum,	\$60
Seven firms do not report on rent paid per annum.	
Average hours worked per week,	59
Hours worked per week in 18 mills,	60
Hours worked per week in 2 mills,	57
Hours worked per week in 1 mill,	55
Hours worked per week in 1 mill,	48

Accidents,	3
Nationality of employes,	269
Americans,	162
Polish,	30
Italians,	29
Irish,	29
Swedes,	8
English,	6
Germans,	3
Negroes,	2

TRADE CONDITIONS IN THE TEXTILE INDUSTRY IN PHILADELPHIA, 1907.

MANUFACTURE OF CARPETS AND RUGS.

Number of employes that own their homes,	147
Average rent paid per annum,	\$155
Highest rent per annum,	\$204
Lowest rent per annum,	\$96
Average working hours per week,	57
Working hours per week in 60 mills,	60
Working hours per week in 1 mill,	59
Working hours per week in 4 mills,	58
Working hours per week in 6 mills,	57
Working hours per week in 15 mills,	55
Working hours per week in 1 mill,	46
Working hours per week in 1 mill,	45
Working hours per week in 1 mill,	44
Fatal accidents,	1
Serious accidents,	17
Nationality of employes,	4,983
Americans,	3,714
Irish,	531
German,	316
English,	212
Danish,	161
Scotch,	25
Russians,	6
Italians,	6
Swedes,	6
Polish,	5
Austrians,	1

DAYS LOST BY STRIKES IN THE CARPET AND RUG BUSINESS IN PHILADELPHIA.

Number 994. Reports 25 days lost by strike.

Paid slight advance in wages in order to resume.

Number affected by strike, 200.

Date beginning strike March 1, 1907.

Date ending strike March 31, 1907.

Number 1,011. Reports 12 days lost by strike.

Strike was successful. Arbitrated.

Number affected by strike, 20.

Question in dispute: Wanted weavers to carry yarn to winders but they refused.

Number 935. Reports 12 days lost by strike.

Velvet weaving.

Number affected by strike, 235.

DYERS, BLEACHERS AND FINISHERS, 1907.

Number of employes that own their homes,	20
Average house rent paid per annum,	\$160
Highest house rent per annum,	\$216
Lowest house rent per annum,	\$132
Average working hours per week,	57
Working hours per week in 11 mills,	60
Working hours per week in 3 mills,	57
Working hours per week in 3 mills,	55
Working hours per week in 1 mill,	52
Working hours per week in 2 mills,	50
Working hours per week in 1 mill,	40
Nationality of employes,	394
Americans,	319
Germans,	21
English,	25
Irish,	22
Polish,	5
Russians,	2

ALCOHOL, ACETATE OF LIME, CHARCOAL, ETC.

	1907	1906.
Number of establishments considered,	21	24
Capital invested (realty, machinery and working capital),	\$2,138,271	\$2,360,642
Market value of production,	1,881,391	2,022,139
Average number of days in operation,	280	257
Average number of working people employed, ..	715	647
Aggregate amount of wages paid,	\$372,955	\$312,642
Average yearly wages,	521 61	483 23
Average daily wages,	1 86	1 88
Average value produced by each employe,	2,631 31	3,125 40
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Total productions in given quantities:		
Wood alcohol in gallons,	3,341,720	1,963,809
Acetate of lime in pounds,	33,898,231	35,965,827
Charcoal in bushels,	9,124,550	9,244,664
Lumber in feet,	226,000	406,000
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LABOR SUPPLEMENT.

ALCOHOL, WOOD, ACETATE OF LIME, CHARCOAL, ETC.

Number of companies reporting,	22
Number of employes who own their homes,	114
Highest rent per annum,	\$72
Lowest rent per annum,	\$36
Average rent paid per annum,	\$53
Serious accidents,	1
Days idle for repairs and lack of orders,	124
Companies working 80 hours per week,	1
Companies working 71 hours per week,	1
Companies working 63 hours per week,	3
Companies working 60 hours per week,	11
Companies working 66 hours per week,	2
Companies working 50 hours per week,	1
Three companies do not report working hours per week.	
Number of employes and their nationality,	562
Americans,	91
English,	275
Hungarians,	9
Italians,	52
Swedes,	52

Greeks,	3
Slavonians,	48
Macedonians,	4
Nationality not given,	28

AGRICULTURAL IMPLEMENTS, MILL AND MINING MA- CHINERY.

	1907	1906.
Number of establishments considered,	16	16
Capital invested (realty, buildings, machinery, etc.),	\$5,465,405	\$5,185,968
Market value of production,	7,336,407	7,250,154
Average number of days in operation,	291	301
Average number of wage earners employed,	3,148	3,236
Males,	3,133	3,206
Females,	2	11
Minors,	13	19
Aggregate amount of wages paid,	\$1,658,382	\$1,630,304
Males,	\$1,654,903	\$1,621,280
Females,	625	4,700
Minors,	2,854	4,374
Average yearly earnings,	\$526 80	\$503 80
Males,	\$528 55	\$506 68
Females,	312 50	427 27
Minors,	219 53	230 21
Average daily wage,	\$1 81	\$1 67
Males,	\$1 81	\$1 68
Females,	1 07	1 42
Minors,	75	76
Average value produce by each employe,	\$2,330,50	\$2,240,47
Total production as reported:		
Agricultural implements, tons,	4,835	3,745
Lawn mowers,	35,941	41,000
Engines, threshers, saw mills, etc.,	32,674	5,059
Agricultural implements, doz.,	61,000	49,000
Shellers, weeders, cultivators and plows,		32,056

LABOR SUPPLEMENT—AGRICULTURAL IMPLEMENTS, MILL AND MINING MACHINERY.

Number of companies reporting,	16
Number of employes who own their homes,	466
Highest rent per annum,	\$180
Lowest rent per annum,	\$61
Average rent paid per annum,	\$125
Serious accidents,	15
Fatal accidents,	1
Days idle on account of inventory and repairs,	30
Companies working 60 hours per week,	7
Companies working 59 hours per week,	3
Companies working 58 hours per week,	2
Companies working 55 hours per week,	3
Companies working 54 hours per week,	1
Average working hours per week,	58
Number of employes and their nationality,	2,744
Americans,	2,669
Roumanians,	74
Jews,	1

AUTOMOBILES.

	1907	1906.
Number of establishments considered,	6	8
Capital invested (realty, business, machinery, etc.), and working capital,	\$2,324,134	\$1,788,078
Market value of production,	1,961,180	1,894,562
Average number of days in operation,	295	306
Average number of wage earners employed,	833	973
Males,	833	965
Females,		1
Minors,		7
Aggregate amount of wages paid,	\$530,691	\$653,259
Males,	\$530,091	\$61,021
Females,		270
Minors,		1,968
Average yearly wages paid,	\$636 36	\$671 28
Males,	\$636 36	\$674 63
Females,		270 00
Minors,		281 14

Average daily wage,	\$2 16	\$2 19
Males,	\$2 16	\$2 20
Females,		88
Minors,		92
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Value of production for each workmen,	\$2,354 30	\$1,947 13
Total product as given:		
Automobiles,	183	220
Auto cars,	824	
Gas engines,		10
Electric wagons,	16	
Automatic parts,		1,115
Marine motors,	2	3
Automobile wagons,		5
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LABOR SUPPLEMENT—AUTOMOBILES.

Number of companies reporting,	6
Number of employes who own their homes,	95
Highest rent per annum,	\$198
Lowest rent per annum,	\$120
Average rent paid per annum,	\$169
Serious accidents,	24
Companies working 60 hours per week,	1
Companies working 58 hours per week,	2
Companies working 55 hours per week,	2
Companies working 54 hours per week,	1
Average working hours per week,	57
Number of employes and their nationality,	981
Americans,	953
Germans,	10
Italians,	6
French,	1
Hebrews,	2
Cubans,	4
Slavish,	5

BARRELS, KEGS, ETC.

	1907.	1906.
Number of establishments considered,	5	7
Capital invested,	\$628,500	\$506,800
Market value of production,	431,508	393,594
Average number of days in operation,	277	274
Average number of wage earners employed,	225	246
Males,	192	213
Minors,	33	33
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Aggregate amount of wages paid,	\$96,745	\$106,644
Males,	\$87,506	\$99,634
Minors,	9,240	7,010
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Average yearly earnings,	\$429 98	\$433 51
Males,	\$455 76	\$467 76
Minors,	280 00	212 42
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Average daily wages,	\$1 55	\$1 58
Males,	\$1 64	\$2 20
Minors,	1 01	86
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Average value produced by each employe,	\$1,917 80	\$1,599 97
Total production as reported:		
Barrels,	218,986	
Kegs,	2,334,671	
Barrels and kegs,		2,279,172
Staves,	3,963,000	

LABOR SUPPLEMENT—BARRELS, KEGS, ETC.

Number of companies reporting,	5
Number of employes who own their homes,	5
Highest rent per annum,	\$72
Lowest rent per annum,	\$72
Average rent paid per annum,	\$72
Days idle on account of dull business and repairs,	110
Companies working 60 hours per week,	2
Companies working 54 hours per week,	1
Average working hours per week,	58
Number of employes and their nationality,	225
Americans,	99
Nationality not given,	126

BRIDGES, IRON AND STEEL AND STRUCTURAL WORK.

	1907.	1906.
Number of establishments considered,	13	9
Capital invested (realty, machinery and working capital),	\$4,224,245	\$5,545,800
Market value of production,	35,944,968	31,099,083
Average number of days in operation,	307	306
Average number of wage earners employed,	8,348	8,598
Males,	8,330	8,550
Minors,	18	48
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Aggregate amount of wages paid,	\$5,353,294	\$5,401,098
Males,	\$5,347,683	\$5,384,716
Minors,	5,611	16,382
<hr/>		
Average yearly earnings,	\$641 27	\$628 18
Males,	\$641 97	\$629 79
Minors,	311 72	341 29
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Average daily wage,	\$7 09	\$2 05
Males,	\$2 09	\$2 06
Minors,	1 02	1 11
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Average value of product by each employe,	\$4,305 81	\$3,617 01
Total product expressed in tons,	651,224	626,468

LABOR SUPPLEMENT—IRON AND STEEL BRIDGES AND STRUCTURAL WORK.

Number of companies reporting,	13
Number of employes who own their homes,	264
Highest rent per annum,	\$240
Lowest rent per annum,	\$120
Average rent paid per annum,	\$154
Serious accidents,	26
Fatal accidents,	11
Days idle on account of high water,	10
Companies working 115 hours per week,	1
Companies working 60 hours per week,	1
Companies working 58 hours per week,	1
Companies working 56½ hours per week,	1
Companies working 55 hours per week,	2
Companies working 54 hours per week,	6

One company does not report working hours per week.

Average working hours per week, 60

Number of employees and their nationality, 8,345

Americans, 1,577

Hungarians, 15

Nationality not given, 6,753

BROOMS AND WHISKS.

	1907.	1906.
Number of establishments considered,	8	7
Capital invested in plants and working capital, ..	\$182,089	\$127,186
Market value of production,	369,999	263,589
Average number of days in operation,	290	293
Average number of wage earners employed,	184	153
Males,	148	120
Females,	27	25
Minors,	9	8
Aggregate amount of wages paid,	\$70,330	\$59,906
Males,	\$60,783	\$51,720
Females,	8,008	6,762
Minors,	1,539	1,424
Average yearly earnings,	\$382 23	\$391 54
Males,	\$410 69	\$431 00
Females,	296 59	270 48
Minors,	171 00	178 00
Average daily wage,	\$1 32	\$1 33
Males,	\$1 42	\$1 47
Females,	1 02	92
Minors,	59	61
Average value produced by each employe,	\$2,010 87	\$1,722 80
Total production as reported:		
Brooms, dozens,	*140,574	106,045
Whisks, dozens,	4,812	

*In dozens.

LABOR SUPPLEMENT—BROOMS AND WHISKS.

Number of companies reporting,	8
Number of employes who own their homes,	16
Highest rent per annum,	\$144
Lowest rent per annum,	\$90
Average rent paid per annum,	\$110
Days idle on account of dull business,	72
Companies working 60 hours per week,	2
Companies working 59 hours per week,	1
Companies working 55 hours per week,	1
Companies working 54 hours per week,	4
Average working hours per week,	56
Number of employes and their nationality,	272
Americans,	243
Germans,	5
Irish,	10
Italians,	3
Canadians,	1
Negroes,	3
Slavonians,	7

CARPETS AND RUGS MANUFACTURED IN THE STATE, NOT INCLUDING PHILADELPHIA, WHICH WILL BE FOUND ON ANOTHER PAGE.

	1907.	1906.
Number of establishments considered,	12	14
Capital invested (realty, buildings, machinery and conduct of business),	\$1,669,887	\$1,491,474
Market or realized value of production,	1,979,147	2,057,842
Average number of days in operation,	275	285
Average number of wage earners employed,	1,144	1,245
Males,	769	767
Females,	333	417
Minors,	42	61
Aggregate amount of wages paid,	\$411,919	\$567,378
Males,	\$301,889	\$407,964
Females,	100,775	145,235
Minors,	9,255	14,179
Average yearly earnings,	\$360 94	\$455 72
Males,	\$392 57	\$531 90
Females,	302 63	348 28
Minors,	220 36	232 44

Average daily wage,	\$1 31	\$1 60
Males,	\$1 43	\$1 86
Females,	1 10	1 22
Minors,	80	82
<hr/>		
Average value produced by each:		
Wage earners,	\$1,738 77	\$1,652 88
Total production:		
Yards of carpets,	4,136,664	4,239,908
Pounds of yarn,	400,000	.....
Rugs, .....	.....	81,827

LABOR SUPPLEMENT—CARPETS AND RUGS.

Number of companies reporting,	12
Number of employes who own their homes,	48
Highest rent per annum,	\$120
Lowest rent per annum,	\$60
Average rent paid per annum,	\$92
Serious accidents,	1
Days idle on account of death and depression,	36
Companies working 60 hours per week,	8
Companies working 55 hours per week,	1
Companies working 50 hours per week,	1
Companies working 48 hours per week,	1
One company does not report working hours per week.	
Average working hours per week,	58
Number of employes and their nationality,	1,143
Americans,	857
Germans,	47
English,	54
Irish,	130
Italians,	10
Russians,	10
Jews,	35

CARS, CAR WHEELS AND CASTINGS.

	1907.	1906.
Number of establishments considered,	18	18
Capital invested (realty, buildings and working capital),	\$41,250,374	\$33,822,468
Market value of production,	100,404,886	89,259,318
Average number of days in operation,	305	321
Average number of wage earners employed,	22,213	20,271
Males,	22,173	20,170
Females,	11	35
Minors,	29	66
<hr/>		
Aggregate amount of wages paid,	\$14,392,777	\$13,134,005
Males,	\$14,381,151	\$13,100,471
Females,	5,148	15,907
Minors,	6,478	17,627
<hr/>		
Average yearly earnings,	\$647 95	\$647 92
Males,	\$648 59	\$649 53
Females,	468 00	454 49
Minors,	223 38	267 06
<hr/>		
Average daily wage,	\$2 12	\$2 02
Males,	\$2 13	\$2 02
Females,	1 53	1 42
Minors,	73	83
<hr/>		
Average value produced by each employe,	\$4,520 09	\$4,403 25
Total production as reported:		
Cars,	90,725	73,026
Car wheels and trucks,	275,783	140,756
Car bodies, bolsters and frames,	40,569	54,500
Castings, tons,	7,035,830	111,244

LABOR SUPPLEMENT—CARS, CAR WHEELS AND CASTINGS.

Number of companies reporting,	18
Number of employes who own their homes,	422
Highest rent per annum,	\$216
Lowest rent per annum,	\$100
Average rent paid per annum,	\$148
Serious accidents,	187
Fatal accidents,	28
Days idle on account of flood, repairs and dull business,	101
Companies working 60 hours per week,	11
Companies working 59 hours per week,	1
Companies working 55 hours per week,	2
Companies working 54 hours per week,	3
Companies working 125 hours per week,	1
Average working hours per week,	62
Number of employes and their nationality,	21,659
Americans,	9,768
English,	225
Germans,	1,330
Irish,	325
Hungarians,	1,461
Italians,	335
Polish,	2,467
Russians,	3,184
Swedes,	262
Negroes,	10
Austrians,	222
Slavonians,	1,335
Greeks,	186
German,	200
Welsh,	340
Croatians,	4
Jews,	2
Swiss,	1
Danes,	2

CARRIAGES, WAGONS, AXLES AND SPRINGS.

	1907.	1906.
Number of establishments considered,	23	24
Capital invested (realty, machinery, tools, etc.),	\$2,212,976	\$2,252,761
Market or realized value of production,	3,684,545	3,392,634
Average number of days in operation,	298	302
Average number of wage earners employed,	2,118	2,192
Males,	1,980	2,028
Females,	57	54
Minors,	81	110
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Aggregate amount of wages paid,	\$1,119,493	\$1,051,017
Males,	\$1,086,570	\$1,014,185
Females,	13,329	12,318
Minors,	19,594	24,514
<hr/>		
Average yearly earnings,	\$528 56	\$479 48
Males,	\$548 77	\$501 08
Females,	233 84	288 11
Minors,	241 90	223 84
<hr/>		
Average daily wage,	\$1 80	\$1 59
Males,	\$1 87	\$1 66
Females,	80	75
Minors,	82	74
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Average value produced by each employe,	\$1,739 63	\$1,547 73
Total production as given:		
Carriages,	23,705	24,525
Automobiles,	740	
Axles and springs, tons,	94,867	12,832
Carriage parts, pieces,	90,000	
Axle sets,		81,225
Children's carriages,		76,000

LABOR SUPPLEMENT—CARRIAGES, WAGONS, AXLES AND SPRINGS.

Number of companies reporting,	23
Number of employes who own their homes,	154
Highest rent per annum,	\$240
Lowest rent per annum,	\$108
Average rent paid per annum,	\$152
Days idle on account of dull business and assignment, .	80
Companies working 60 hours per week,	10
Companies working 59 hours per week,	1
Companies working 58½ hours per week,	1
Companies working 58 hours per week,	1
Companies working 57½ per week,	1
Companies working 55 hours per week,	2
Companies working 54 hours per week,	5
Companies working 48 hours per week,	2
Average working hours per week,	55
Number of employes and their nationality,	2,100
Americans,	1,177
Germans,	50
Italians,	4
Polish,	4
Austrians,	1
Hungarians,	1
Canadians,	4
Roumanians,	1
Nationality not given,	858

CEMENT PRODUCTION IN PENNSYLVANIA.

	1907.	1906.
Number of firms or corporations considered,	23	22
Capital invested (realty, machinery, business, etc.),	\$42,452,427	\$38,730,529
Market value of production,	20,109,453	19,748,569
Average number of days in operation,	330	328
Average number of wage earners employed,	11,052	10,781
Males,	11,010	10,738
Females,	3	2
Minors,	39	41
<hr/>		
Aggregate amount of wages paid,	\$5,349,128	\$5,161,569
Males,	\$5,337,631	\$5,149,716
Females,	1,298	936
Minors,	10,199	10,917
<hr/>		
Average yearly earnings,	\$483 99	\$478 76
Males,	\$484 80	\$479 58
Females,	432 66	468 00
Minors,	261 51	261 39
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Average daily wage,	\$1 47	\$1 46
Males,	\$1 47	\$1 46
Females,	1 31	1 43
Minors,	79	80
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Average value of production for each person employed,	\$1,819 53	\$1,829 94
Number of barrels of cement produced,	21,451,495	19,922,747
One report included lime produced, bushels,	251,807	158,178
Average value per barrel,	\$0 94	\$0 99

LABOR SUPPLEMENT—CEMENT.

Number of companies reporting,	23
Number of employes who own their homes,	319
Highest rent per annum,	\$144
Lowest rent per annum,	\$72
Average rent paid per annum,	\$108
Serious accidents,	96
Fatal accidents,	34
Days idle on account of lack of business, cold weather, car shortage and repairs,	522
Companies working 168 hours per week,	12
Companies working 144 hours per week,	1
Companies working 77 hours per week,	1
Companies working 72 hours per week,	1
Companies working 70 hours per week,	1
Companies working 66 hours per week,	5
Companies working 65 hours per week,	1
Number of employes and their nationality,	11,032
Americans,	3,795
English,	2
Germans,	390
Irish,	1
Hungarians,	2,103
Italians,	1,035
Polish,	262
French,	50
Slavish,	652
Austrians,	2,549
Russians,	68
Negroes,	3
Roumanians,	7
Assyrians,	125

CEMENT BUILDING BLOCKS AND CRUSHED STONE.

	1907.	1906.
Number of establishments considered,	13	14
Capital invested (realty, machinery and working capital),	\$803,789	\$797,005
Market value of production,	698,958	747,475
Average number of days in operation,	287	243
Average number of wage earners employed,	627	706
Males,	702	
Minors,	4	
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Aggregate amount of wages paid,	\$306,526	\$275,129
Males,	\$274,595	
Minors,	534	
<hr/>		
Average yearly wages,	\$487 28	\$389 70
Males,	\$391 16	
Minors,	133 50	
<hr/>		
Average daily wage,	\$1 69	\$1 60
Males,	\$1 61	
Minors,	55	
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Average value produced by each employe,	\$1,114 77	\$1,058 74
Total production as given:		
Cement blocks,	202,933	
Cement blocks and bricks,		5,527,001
Crushed stone, tons,	856,639	973,114
Bricks,	3,305,440	
Stone trimmings, feet,	50,424	
Cement blocks and bricks, cubic feet,		137,000

LABOR SUPPLEMENT—CEMENT BUILDING BLOCKS AND CRUSHED STONE.

Number of companies reporting,	12
Number of employes who own their homes,	3
Highest rent per annum,	\$150
Lowest rent per annum,	\$48
Average rent paid per annum,	\$113
Days idle on account of dull business and cold weather,	280
Companies working 60 hours per week,	1
Companies working 59 hours per week,	3
Companies working 54 hours per week,	4
Companies working 52 hours per week,	1
Companies working 50 hours per week,	2
Companies working 48 hours per week,	1
Average working hours per week,	54
Number of employes and their nationality,	164
Americans,	72
Irish,	4
Scotch,	9
Italians,	62
Polish,	6
Slavonians,	3
Negroes,	2
Nationality not given,	6

CHAINS AND FORGINGS.

	1907.	1906.
Number of establishments considered,	12	11
Capital invested (realty, buildings and working capital),	\$2,255,297	\$1,622,068
Market value of production,	2,526,414	2,306,503
Average number of days in operation,	285	304
Average number of wage earners employed,	1,395	1,267
Males,	1,318	1,198
Females,	7	10
Minors,	70	59
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Aggregate amount of wages paid,	\$650,190	\$654,999
Males,	\$631,308	\$637,078
Females,	2,315	3,154
Minors,	16,572	14,736
<hr/>		
Average yearly earnings,	\$459 63	\$516 97
Males,	\$478 98	\$531 78
Females,	331 28	315 40
Minors,	215 22	249 76
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Average daily wage,	\$1 65	\$1 70
Males,	\$1 68	\$1 75
Females,	1 16	1 04
Minors,	75	82
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Average value produced by each employe,	\$1,811 77	\$1,828 34
Total production expressed in tons,	27,709	28,784

LABOR SUPPLEMENT—CHAINS AND FORGINGS.

Number of companies reporting,	12
Number of employes who own their homes,	45
Highest rent per annum,	\$216
Lowest rent per annum,	\$120
Average rent paid per annum,	\$165
Serious accidents,	2
Fatal accidents,	1
Companies working 120 hours per week,	1
Companies working 60 hours per week,	3
Companies working 55 hours per week,	4
Companies working 54 hours per week,	2
Companies working 50 hours per week,	1
Average working hours per week,	62
Number of employes and their nationality,	1,384
Americans,	1,027
English,	151
Germans,	42
Irish,	20
Hungarians,	16
Italians,	4
Polish,	24
Russians,	10
Swedes,	24
Welsh,	2
Slavish,	35
Belgians,	2
Austrians,	16
Roumanians,	11

CORDAGE, ROPE AND TWINE.

	1907.	1906.
Number of establishments considered,	10	11
Capital invested (realty, machinery, business, etc.),	\$5,278,212	\$5,244,813
Market or realized value of production,	10,035,099	9,148,846
Average number of days in operation,	290	302
Average number of working people employed,	2,899	2,907
Males,	1,255	1,280
Females,	1,374	1,406
Minors,	270	221
<hr/>		
Aggregate amount of wages paid,	\$898,890	\$974,853
Males,	\$523,813	\$551,993
Females,	331,360	379,277
Minors,	43,717	43,583
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Average yearly wages,	\$319 48	\$335 35
Males,	\$417 38	\$431 26
Females,	248 44	269 75
Minors,	161 91	197 20
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Average daily wages,	\$1 10	1 11
Males,	\$1 44	\$1 43
Females,	85	89
Minors,	56	65
<hr/>		
Average value of production for each employe, ..	\$3,468 45	\$3,147 13
Total production in quantities given:		
Cordage, rope and twine in pounds,	59,199,039	68,213,278
Bags, in numbers,		90,200,000

LABOR SUPPLEMENT—CORDAGE, ROPE AND TWINE.

Number of companies reporting,	10
Number of employes who own their homes,	49
Highest rent per annum,	\$144
Lowest rent per annum,	\$84
Average rent paid per annum,	\$115
Serious accidents,	1
Days idle on account of repairs,	88
Companies working 60 hours per week,	4
Companies working 59 hours per week,	1
Companies working 55 hours per week,	3
Average working hours per week,	58
Number of employes and their nationality,	3,016
Americans,	1,030
English,	2
Germans,	20
Irish,	136
Scotch,	17
Hungarians,	125
Italians,	35
Polish,	74
Welsh,	5
Slavish,	120
Greeks,	20
Nationality not given,	1,432

CORKS.

	1907.	1906.
Number of establishments considered,	8	6
Capital invested (realty, machinery, business, etc.),	\$2,848,000	\$1,616,500
Market value of production,	3,897,482	3,790,000
Average number of days in operation,	301	302
Average number of wage earners employed,	1,859	1,734
Males,	973	869
Females,	698	780
Minors,	188	85
<hr/>		
Aggregate amount of wages paid,	\$817,603	\$583,644
Males,	\$553,315	\$336,820
Females,	235,727	226,518
Minors,	28,561	20,306
<hr/>		
Average yearly earnings,	\$439 81	\$336 59
Males,	\$568 67	\$387 59
Females,	337 72	290 41
Minors,	151 92	238 89
<hr/>		
Average daily wage,	\$1 46	\$1 11
Males,	\$1 89	\$1 28
Females,	1 12	96
Minors,	50	79
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Average value produced by each employe,	\$2,096 55	\$2,185 70
Corks, in pounds,	31,096,000	33,069,000
Corks, in gross,		56,000

LABOR SUPPLEMENT—CORKS.

Number of companies reporting,	8
Number of employes who own their homes,	159
Highest rent per annum,	\$180
Lowest rent per annum,	\$100
Average rent paid per annum,	\$126
Serious accidents,	2
Days idle on account of repairs,	52
Companies working 60 hours per week,	4
Companies working 59 hours per week,	1
Companies working 55 hours per week,	3
Average working hours per week,	58
Number of employes and their nationality,	1,751
Americans,	1,380
English,	12
Germans,	112
Irish,	40
Scotch,	4
Italians,	78
Polish,	30
Russians,	2
Austrians,	86
Welsh,	4
Jews,	2
Spanish,	1

COTTON GOODS IN THE STATE NOT INCLUDED IN PHILADELPHIA, WHICH WILL BE FOUND ON ANOTHER PAGE.

	1907.	1906.
Number of establishments considered,	21	22
Capital invested (realty, machinery, business, etc.),	\$4,690,314	\$4,929,063
Market or realized value of production,	8,170,807	6,646,577
Average number of days in operation,	301	304
Average number of working people employed, ..	3,695	3,840
Males,	1,537	1,437
Females,	1,852	2,056
Minors,	306	347
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Aggregate amount of wages paid,	\$1,463,707	\$1,461,272
Males,	\$776,698	\$748,433
Females,	619,195	639,339
Minors,	67,814	73,500
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Average yearly earnings,	\$396 12	\$380 51
Males,	\$505 33	\$520 83
Females,	334 34	310 96
Minors,	221 61	211 82
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Average daily wage,	\$1 32	\$1 25
Males,	\$1 68	\$1 71
Females,	1 11	1 02
Minors,	74	70
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Average value produced by each employe,	\$2,214 02	\$1,730 80
Total product in given quantities:		
Cotton goods, in yards,	34,089,575	46,873,733
Cotton goods, in pieces,	75,049	8,397
Cotton yarns and goods, in pounds,	3,137,963	4,631,456
Cotton braid, gross,	18,000	12,000
Cotton goods, dozens,	18,000	48,000

LABOR SUPPLEMENT—COTTON GOODS.

Number of companies reporting,	21
Number of employes who own their homes,	141
Highest rent per annum,	\$156
Lowest rent per annum,	\$60
Average rent paid per annum,	\$109
Days idle on account of dull business and repairs,	71
Companies working 60 hours per week,	18
Companies working 59½ hours per week,	1
Companies working 54 hours per week,	1
Average working hours per week,	60
Number of employes and their nationality,	3,906
Americans,	2,766
English,	93
Germans,	197
Irish,	42
Scotch,	8
Hungarians,	4
Italians,	18
Polish,	75
Russians,	6
French,	4
Greeks,	54
Swiss,	1
Austrians,	7
Lithuanians,	9
Welsh,	1
Danes,	1
Nationality not given,	620

EDGE TOOLS, GAS STOVES, IRON AND STEEL SPECIALTIES.

	1907.	1906.
Number of establishments considered,	22	22
Capital invested (realty, machinery and working capital),	\$5,836,962	\$4,061,596
Market value of production,	3,863,666	3,684,894
Average number of days in operation,	291	298
Average number of wage earners employed,	1,866	2,009
Males,	1,822	1,891
Females,	35	66
Minors,	9	52
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Aggregate amount of wages paid,	\$1,173,846	\$1,084,460
Males,	\$1,156,614	\$1,049,150
Females,	14,798	18,080
Minors,	2,434	17,230
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Average yearly earnings,	\$629 07	\$539 80
Males,	\$634 81	\$554 81
Females,	422 51	273 94
Minors,	270 44	331 34
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Average daily wage,	\$2 16	\$1 81
Males,	\$2 18	\$1 86
Females,	1 45	92
Minors,	93	1 11
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Average value produced by each employé,	\$2,070 56	\$1,635 86
Total production as reported:		
Edge tools, dozens,	729,906	501,138
Stoves, oil heaters and radiators,	25,591	55,179
Ranges and cooking utensils, pieces,	11,000	
Iron and steel specialties, tons,	10,019	10,410
Forgings, pounds,		181,733

LABOR SUPPLEMENT—EDGE TOOLS, GAS STOVES, IRON AND STEEL SPECIALTIES.

Number of companies reporting,	22
Number of employees who own their homes,	161
Highest rent per annum,	\$192
Lowest rent per annum,	\$48
Average rent paid per annum,	\$139
Serious accidents,	2
Days idle on account of lack of orders, repairs and stock taking,	154
Companies working 90 hours per week,	1
Companies working 60 hours per week,	9
Companies working 57½ per week,	1
Companies working 58 hours per week,	1
Companies working 55 hours per week,	2
Companies working 54 hours per week,	2
Companies working 53 hours per week,	1
Companies working 48 hours per week,	3
Companies working 46 hours per week,	1
Average working hours per week,	57
Number of employees and their nationality as reported,	1,749
Americans,	985
English,	142
Germans,	107
Irish,	38
Scotch,	2
Hungarians,	19
Italians,	1
Polish,	81
Russians,	14
Swedes,	98
Finlanders,	203
Lithuanians,	44
Slavish,	5
Danes,	10

STRIKES.

Number 74 reports:

Days lost by strike, 14.

Employees affected by strike, 65.

Strike began June 10.

Strike ended June 24.

Question involved in dispute: Increase of wages.

EMERY AND WATER WHEELS.

	1907.	1906.
Number of establishments considered,	6	6
Capital invested (realty and capital),	\$1,107,812	\$1,166,078
Market value of production,	1,170,779	944,971
Average number of days in operation,	301	300
Average number of wage earners employed,	636	630
Males,	601	580
Minors,	35	50
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Aggregate amount of wages paid,	\$275,039	\$259,041
Males,	\$268,389	\$246,541
Minors,	6,650	12,500
<hr/>		
Average yearly earnings,	\$432 45	\$411 18
Males,	\$446 57	\$425 07
Minors,	190 00	250 00
<hr/>		
Average daily wage,	\$1 44	\$1 37
Males,	\$1 48	\$1 42
Minors,	63	83
<hr/>		
Average value produced by each employe,	\$1,840 85	\$1,499 95
Total production as given:		
Water and emery wheels,	458	10,360
Emery, tons,	1,500	1,160

LABOR SUPPLEMENT—EMERY AND WATER WHEELS.

Number of companies reporting,	6
Number of employes who own their homes,	189
Highest rent per annum,	\$192
Lowest rent per annum,	\$120
Average rent paid per annum,	\$144
Companies working 60 hours per week,	3
Companies working 59 hours per week,	1
Companies working 57 hours per week,	2
Average working hours per week,	59
Number of employes and their nationality,	636
Americans,	617
Germans,	5
Irish,	8
Italians,	6

ELECTRIC APPARATUS AND ELECTRIC LAMPS.

	1907.	1906.
Number of establishments considered,	5	5
Capital invested (realty, machinery, business, etc.),	\$33,415,311	\$33,385,520
Market value of production,	28,514,540	25,002,640
Average number of days in operation,	300	305
Average number of people employed,	11,872	11,268
Males,	10,503	9,813
Females,	1,361	1,447
Minors,	8	8
<hr/>		
Aggregate amount of wages paid,	\$7,204,276	\$6,861,429
Males,	\$6,756,779	\$6,394,573
Females,	445,547	466,876
Minors,	1,950	480
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Average yearly earnings,	\$606 82	\$608 93
Males,	\$643 34	\$651 64
Females,	327 37	322 30
Minors,	243 75	60 00
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Average daily wage,	\$2 02	\$2 00
Males,	\$2 14	\$2 13
Females,	1 09	1 05
Minors,	81	20
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Average value of production for each employe, ..	\$2,486 05	\$2,218 90
Total production as reported:		
Electric lamps,	150,748	
Electric burners,	450,000	

LABOR SUPPLEMENT—ELECTRIC APPARATUS AND ELECTRIC LAMPS.

Number of companies reporting,	5
Serious accidents,	25
Fatal accidents,	2
Companies working 60 hours per week,	1
Companies working 54½ hours per week,	1
Companies working 54 hours per week,	2
Companies working 49½ hours per week,	1
Average working hours per week,	54
Number of employes and their nationality,	11,872
Americans,	141
French,	1
Austrians.	1
Nationality not given,	11,729

GAS, GASOLINE AND STEAM ENGINES AND OIL WELL SUPPLIES.

	1907.	1906.
Number of establishments considered,	18	18
Capital invested (in realty, machinery and business),	\$5,606,186	\$6,086,145
Market value of production,	3,840,174	3,879,584
Average number of days in operation,	308	305
Average number of wage earners employed,	1,713	1,609
Males,	1,708	1,609
Minors,	5	
<hr/>		
Aggregate amount of wages paid,	\$1,087,622	\$933,061
Males,	\$1,086,122	\$933,061
Minors,	1,500	
<hr/>		
Average yearly wages,	\$634 92	\$579 90
Males,	\$635 90	\$579 90
Minors,	300 00	
<hr/>		
Average daily wage,	\$2 06	\$1 90
Males,	\$2 06	\$1 90
Minors,	97	
<hr/>		
Average value produced by each employe,	\$2,241 78	\$2,411 18
Total production as given:		
Gas and steam engines,	2,366	2,441
Boilers,	2,663	2,871
Pumps,	89	
Supplies, in tons,	5,355	1,004,795

LABOR SUPPLEMENT—GAS, GASOLINE AND STEAM ENGINES AND OIL WELL SUPPLIES.

Number of companies reporting,	18
Number of employes who own their homes,	167
Highest rent per annum,	\$180
Lowest rent per annum,	\$120
Average rent paid per annum,	\$136
Serious accidents,	5
Fatal accidents,	1
Days idle on account of lack of orders and repairs,	156
Companies working 60 hours per week,	7
Companies working 59 hours per week,	3
Companies working 56 hours per week,	1
Companies working 55 hours per week,	4
Companies working 54 hours per week,	3
Average working hours per week,	58
Number of employes and their nationality,	1,711
Americans,	303
English,	3
Germans,	53
Irish,	74
Italians,	9
Austrians,	9
Swedes,	24
Russians,	5
Prussians,	2
Swiss,	5
Armenians,	3
Jews,	11
Nationality not given,	1,210

STRIKES.

Number 904 reports:

Days lost by strike, 15.

Employes affected, 23.

Strike unsuccessful.

Not arbitrated.

Strike began May 7, 1907.

Strike ended May 25, 1907.

Question involved in dispute: Wanted ten hours pay for nine hours work.

Number 916 reports:

Days lost by strike, 208.

Employees affected by strike, 46.

Strike unsuccessful.

Not arbitrated.

Strike began May 1, 1907.

Strike not ended.

Question involved in dispute: Demanded excessively high rate;
the establishment of a minimum rate and time and half time
for any over time after 5.30 p. m.

GLASS, PLATE.

	1907.	1906.
Number of establishments considered,	6	7
Capital invested (realty, machinery and work- ing capital),	\$11,958,483	\$11,901,923
Market value of production,	6,322,229	5,940,141
Average number of days in operation,	291	301
Average number of wage earners reported,	4,311	4,155
Males,	4,213	4,051
Females,	51	41
Minors,	47	63
<hr/>		
Aggregate amount of wages paid,	\$2,591,843	\$2,481,945
Males,	\$2,560,738	\$2,453,371
Females,	16,910	11,429
Minors,	14,195	17,145
<hr/>		
Average yearly earnings,	\$601 22	\$597 34
Males,	\$607 82	\$605 62
Females,	331 57	278 76
Minors,	302 02	272 14
<hr/>		
Average daily wage,	\$2 06	\$1 98
Males,	\$2 09	\$2 01
Females,	1 13	92
Minors,	1 04	90
<hr/>		
Average value of each employe,	\$1,466 53	\$1,429 64
Plate glass, feet,	21,223,424	23,805,584
Mirrors,		700,000

LABOR SUPPLEMENT—GLASS, PLATE.

Number of companies reporting,	6
Number of employes who own their homes,	638
Highest rent per annum,	\$192
Lowest rent per annum,	\$100
Average rent paid per annum,	\$135
Serious accidents,	4
Fatal accidents,	1
Days idle on account of repairs,	42
Companies working 126 hours per week,	1
Companies working 60 hours per week,	3
Companies working 52 hours per week,	1
Companies working 52 hours per week,	1
Average working hours per week,	67
Number of employes and their nationality,	4,315
Americans,	1,154
English,	101
Germans,	433
Irish,	3
Scotch,	1
Hungarians,	12
Italians,	218
Polish,	451
Russians,	11
Swedes,	1
French,	8
Belgians,	333
Slavonians,	1,252
Negroes,	12
Swiss,	1
Austrians,	3
Greek,	254
Nationality not given,	67

STRIKES.**Number 182 reports:**

Days lost by strike, 6.

Employees affected by strike, 48.

Strike began May 20, 1907.

Strike ended May 26, 1907.

Questions involved in dispute: Wanted increased wages in casting hall.

Strike not successful.

Number 181 reports:

Employees affected by strike, 50.

Strike not successful.

Strike began November 1, 1907.

Strike not ended.

Question involved in dispute: Workmen wanted closed shop.

GLASS, WINDOW.

	1907.	1906.
Number of establishments considered,	13	17
Capital invested (realty, machinery and working capital),	\$18,550,244	\$2,630,195
Market value of production,	6,744,091	5,100,102
Average number of days in operation,	233	228
Average number of wage earners employed,	5,165	4,424
Males,	5,058	4,339
Minors,	107	85
=====		
Aggregate amount of wages paid,	\$3,320,415	\$3,198,000
Males,	\$3,288,790	\$3,182,047
Minors,	\$31,625	15,953
=====		
Average yearly earnings,	\$642 86	\$722 88
Males,	\$652 25	\$733 36
Minors,	295 56	187 68
=====		
Average daily wage,	\$2 75	\$3 17
Males,	\$2 80	\$3 21
Minors,	1 27	82
=====		
Average value produced by each employe,	\$1,305 76	\$1,152 83
Total production as reported:		
Window glass, boxes,	3,103,262	2,146,481
Glass, gross,		120,200

LABOR SUPPLEMENT—GLASS, WINDOW.

Number of companies reporting,	13
Number of employes who own their homes,	244
Highest rent per annum,	\$180
Lowest rent per annum,	\$84
Average rent paid per annum,	\$131
Serious accidents,	15
Fatal accidents,	2
Days idle on account of over production and repairs, ..	991
Companies working 144 hours per week,	1
Companies working 67 hours per week,	1
Companies working 60 hours per week,	1
Companies working 55 hours per week,	3
Companies working 54 hours per week,	1
Companies working 50 hours per week,	1
Companies working 48 hours per week,	1
Companies working 45 hours per week,	1
Companies working 40 hours per week,	3
Average working hours per week,	47
Number of employes and their nationality,	5,080
Americans,	1,704
English,	1
Germans,	209
Irish,	100
Italians,	47
Polish,	94
Swedes,	43
French,	82
Belgians,	350
Nationality not given,	2,450

STRIKES.

Number 195 reports:

Days lost by strike, 2.

Employes affected by strike, 140.

Strike began December 30, 1907.

Strike not settled yet.

Questions involved in dispute: Internal quarrels in four trade unions; two trades, flatteners and cutters, want to separate into union of their own; the blowers and gatherers refused a bill of divorcement; all satisfied with work but leaders refuse permission to work under separate scales.

Number 196 reports:

Employees affected by strike, 300.

Strike unsuccessful.

Strike began October 15, 1907.

No days lost, other men employed.

Question involved in dispute: Split in the labor organization.

GLUE, CURLED HAIR, ETC.

	1907.	1906.
Number of establishments considered,	6	7
Capital invested (in realty and working capital),	\$2,820,784	\$2,792,391
Market value of production,	3,352,155	3,265,846
Average number of days in operation,	298	307
Average number of wage earners employed,	712	673
Males,	630	595
Females,	52	47
Minors,	30	31
Aggregate amount of wages paid,	\$331,987	\$309,293
Males,	\$310,295	\$290,423
Females,	14,718	12,035
Minors,	6,974	6,835
<hr/>		
Average yearly earnings,	\$466 88	\$463 71
Males,	\$526 61	\$494 76
Females,	313 15	256 06
Minors,	224 97	220 48
<hr/>		
Average daily wage,	\$1 56	\$1 51
Males,	\$1 73	\$1 61
Females,	1 03	83
Minors,	75	72
<hr/>		
Average value produced by each employee,	\$4,708 08	\$4,896 32
Total production as reported:		
Glue, curled hair and grease, in pounds,	21,143,866	20,747,755
Sand paper, tons,	330	3,000
Fertilizer, tons,	363	12,000
Tankage, tons,		1,000

LABOR SUPPLEMENT—GLUE, CURLED HAIR, ETC.

Number of companies reporting,	6
Number of employes who own their homes,	30
Highest rent per annum,	\$120
Lowest rent per annum,	\$90
Average rent paid per annum,	\$105
Serious accidents,	1
Days idle on account of repairs,	18
Companies working 60 hours per week,	5
Irregular hours,	1
Average working hours per week,	60
Number of employes and their nationality,	630
Americans,	133
Germans,	53
Hungarians,	103
Polish,	40
Jews,	20
Slavonians,	63
Negroes,	30
Nationality not given,	188

HOSIERY IN THE STATE, NOT INCLUDING PHILADELPHIA, WHICH WILL BE FOUND ON ANOTHER PAGE.

	1907.	1906.
Number of establishments considered,	88	74
Capital invested (realty, machinery, business, etc.),	\$6,355,345	\$5,150,257
Market or realized value of production,	9,397,240	8,171,615
Average number of days in operation,	298	297
Average number working people employed,	10,485	9,252
Males,	1,791	1,617
Females,	7,406	6,297
Minors,	1,288	1,333
<hr/>		
Aggregate amount of wages paid,	\$2,968,933	\$2,682,713
Males,	\$330,260	\$770,499
Females,	1,916,132	1,676,769
Minors,	222,541	245,445
<hr/>		
Average yearly earnings,	\$283 16	\$291 04
Males,	\$463 57	\$476 49
Females,	258 73	266 28
Minors,	173 59	183 44
<hr/>		
Average daily wage,	\$0 95	\$0 98
Males,	\$1 56	\$1 60
Females,	87	89
Minors,	58	62
<hr/>		
Average value produced by each employe,	\$896 25	\$883 23
Total production in given quantities:		
Hosiery, in dozens,	9,096,667	8,532,043
Grease, in pounds,	380,000	
Waste, in pounds,	9,700	

LABOR SUPPLEMENT—HOSIERY.

Number of companies reporting,	88
Number of employes who own their homes,	147
Highest rent per annum,	\$192
Lowest rent per annum,	\$48
Average rent paid per annum,	\$109
Serious accidents,	1
Fatal accidents,	1
Days idle on account of lack of orders, dull times, death, moving, financial troubles and repairs,	502
Companies working 60 hours per week,	40
Companies working 59½ hours per week,	2
Companies working 59 hours per week,	8
Companies working 58 hours per week,	7
Companies working 57 hours per week,	4
Companies working 56 hours per week,	3
Companies working 55 hours per week,	17
Companies working 54 hours per week,	1
Companies working 52 hours per week,	1
Companies working 51 hours per week,	1
Average working hours per week,	55
Number of employes and their nationality,	9,042
Americans,	8,291
English,	45
Germans,	252
Irish,	25
Hungarians,	2
Italians,	2
Polish,	219
Russians,	6
Welsh,	192
Canadians,	1
Austrians,	2
Jews,	1
Slavonians,	4

STRIKES.

Number 586 reports:

Days lost by strike, 6.

Employes affected by strike, 155.

Settled satisfactory to both employer and employe.

Question involved in dispute: A minor difficulty; a refusal of three girls to do a new kind of work without an excessive price for same.

KNIT GOODS, UNDERWEAR, ETC., IN THE STATE, OUTSIDE OF PHILADELPHIA.

	1907.	1906.
Number of establishments considered,	33	26
Capital invested (realty, machinery and working capital),	\$2,637,932	\$2,553,010
Market value of production,	6,021,747	5,485,206
Average number of days in operation,	291	295
Average number of wage earners employed,	3,938	3,473
Males,	723	752
Females,	2,830	2,422
Minors,	385	299
<hr/>		
Aggregate amount of wages paid,	\$1,108,641	\$963,710
Males,	\$356,759	\$330,572
Females,	687,014	583,642
Minors,	64,868	49,496
<hr/>		
Average yearly earnings,	\$281 52	\$277 49
Males,	\$493 44	\$439 59
Females,	242 76	240 97
Minors,	168 52	165 54
<hr/>		
Average daily wage,	\$0 97	\$0 94
Males,	\$1 69	\$1 49
Females,	84	82
Minors,	58	56
<hr/>		
Average value produced by each employe,	\$1,706 89	\$1,579 39
Total production as reported:		
Knit goods, yards,	130,000	
Underwear, dozens,		2,759,601
Knit goods, pounds,	172,701	53,854
Paper boxes,	3,069,019	2,923,402
Knit goods, dozens,	5,587,596	
Hosiery, dozens,		66,952

LABOR SUPPLEMENT—KNIT GOODS, UNDERWEAR, ETC.

Number of companies reporting,	32
Number of employees who own their homes,	79
Highest rent per annum,	\$180
Lowest rent per annum,	\$48
Average rent paid per annum,	\$104
Serious accidents,	7
Fatal accidents,	1
Days idle on account of fire, repairs and dull business, ..	474
Companies working 60 hours per week,	11
Companies working 59 hours per week,	6
Companies working 58 hours per week,	2
Companies working 57 hours per week,	2
Companies working 56 hours per week,	1
Companies working 55 hours per week,	7
Companies working 50 hours per week,	2
One company does not report working hours per week.	
Average working hours per week,	58
Number of employees and their nationality,	4,538
Americans,	1,967
Germans,	119
Irish,	136
Hungarians,	148
Italians,	1
Slavonians,	33
Austrians,	11
Nationality not given,	2,123

LACE GOODS AND DRAPERIES.

	1907.	1906.
Number of establishments considered,	10	11
Capital invested (realty, machinery and working capital),	\$3,466,843	\$2,936,281
Market value of production,	4,321,087	3,485,594
Average number of days in operation,	298	293
Average number of wage earners employed,	2,457	2,445
Males,	1,000	861
Females,	1,087	1,304
Minors,	370	280
<hr/>		
Aggregate amount of wages paid,	\$1,116,925	\$911,627
Males,	\$735,466	\$557,272
Females,	328,175	307,195
Minors,	53,284	47,160
<hr/>		
Average yearly earnings,	\$495 28	\$365 38
Males,	\$735 46	\$647 24
Females,	301 91	235 58
Minors,	144 01	168 43
<hr/>		
Average daily wage,	\$1 66	\$1 25
Males,	\$2 47	\$2 21
Females,	1 01	80
Minors,	89	57
<hr/>		
Average value produced by each employe,	\$1,758 68	\$1,425 60
Total production as reported:		
Lace goods, pieces,	2,161,918	.....
Curtains, pairs,	3,116,595	3,032,972
Lace, yards,	1,304,602	4,825,837
Lace goods, gross,	154,000	154,500
Lace goods, pounds,	2,326,142	128,256

LABOR SUPPLEMENT—LACE GOODS AND DRAPERIES.

Number of companies reporting,	10
Number of employes who own their homes,	63
Highest rent per annum,	\$204
Lowest rent per annum,	\$144
Average rent paid per annum,	\$169
Serious accidents,	18
Days idle on account of holidays and repairs,	20
Companies working 60 hours per week,	2
Companies working 58 hours per week,	2
Companies working 75 hours per week,	1
Companies working 57 hours per week,	1
Companies working 56 hours per week,	1
Companies working 55 hours per week,	1
Companies working 54 hours per week,	1
One company does not report working hours per week.	
Average working hours per week,	59
Number of employes and their nationality,	2,474
Americans,	1,802
English,	53
Germans,	21
Irish,	8
Scotch,	48
Italians,	19
Polish,	73
Russians,	4
Swedes,	4
Slavish,	53
Welsh,	3
French,	1
Nationality not given,	385

LEATHER, MISCELLANEOUS, GIVEN IN SIDES, POUNDS AND FEET.

	1907.	1906.
Number of establishments considered,	9	9
Capital invested (in realty, machinery and working capital),	\$2,155,000	\$2,667,026
Market value of production,	4,725,636	4,993,567
Average number of days in operation,	302	304
Average number of wage earners employed,	770	799
Males,	722	763
Females,	18	16
Minors,	30	20
=====		
Aggregate amount of wages paid,	\$360,587	\$398,687
Males,	\$351,587	\$389,887
Females,	4,800	4,300
Minors,	4,200	4,500
=====		
Average yearly earnings,	\$468 29	\$498 98
Males,	\$468 35	\$510 99
Females,	266 66	268 75
Minors,	140 00	225 00
=====		
Average daily wage,	\$1 55	\$1 64
Males,	\$1 62	\$1 68
Females,	88	88
Minors,	46	74
=====		
Average value produced by each employe,	\$6,137 19	\$6,429 77
Total production as given:		
Leather, in sides,	592,687	1,214,973
Leather, in feet,	5,573,110	
Leather, in pounds,	1,260,000	

LABOR SUPPLEMENT—LEATHER, MISCELLANEOUS.

Number of companies reporting,	9
Number of employes who own their homes,	189
Highest rent per annum,	\$180
Lowest rent per annum,	\$72
Average rent paid per annum,	\$108
Days idle on account of repairs,	2
Companies working 60 hours per week,	7
Companies working 58½ hours per week,	1
Companies working 55 hours per week,	1
Average working hours per week,	57
Number of employes and their nationality,	745
Americans,	158
English,	13
Germans,	102
Irish,	10
Hungarians,	69
Italians,	40
Polish,	44
Swedes,	240
Bohemians,	10
Jews,	4
Danish,	1
Slavonians,	39
Nationality not given,	15

LEATHER BELTING.

	1907.	1906.
Number of establishments considered,	13	8
Capital invested (in plants and working capital),	\$699,032	\$491,000
Market value of production,	942,438	535,194
Average number of days in operation,	306	299
Average number of wage earners employed,	122	77
Males,	121	76
Female,	1	1
<hr/>		
Aggregate amount of wages paid,	\$56,389	\$53,884
Males,	\$35,969	\$53,723
Females,	400	156
<hr/>		
Average yearly earnings,	\$708 11	\$699 79
Males,	\$710 65	\$706 95
Females,	400 00	156 00
Average daily wage,	\$2 31	\$2 34
Males,	\$2 32	\$2 36
Females,	1 31	52
<hr/>		
Average value produced by each employe,	\$7,724 90	\$6,950 57
Total production as given:		
Belting, in feet,	215,520	
Belting, in pounds,	45,000	
Oil, in gallons,	2,500	

LABOR SUPPLEMENT—LEATHER BELTING.

Number of companies reporting,	13
Number of employes who own their homes,	13
Highest rent per annum,	\$216
Lowest rent per annum,	\$120
Average rent paid per annum,	\$175
Companies working 60 hours per week,	8
Companies working 59½ hours per week,	1
Companies working 58 hours per week,	2
Companies working 55 hours per week,	2
Average working hours per week,	58
Number of employes and their nationality,	116
Americans,	105
Germans,	2
Scotch,	3
Canadians,	2
Nationality not given,	4

SHOE LEATHER, ENAMELED AND GLAZED KID.

	1907.	1906.
Number of establishments considered,	15	18
Capital invested (realty, machinery and working capital),	\$12,646,552	\$11,940,955
Market value of production,	20,683,602	25,363,012
Average number of days in operation,	291	300
Average number of wage earners employed,	4,406	5,186
Males,	3,826	4,456
Females,	255	332
Minors,	325	396
<hr/>		
Aggregate amount of wages paid,	\$2,188,808	\$2,570,619
Males,	\$2,631,985	\$2,565,728
Females,	80,965	111,478
Minors,	75,858	93,415
<hr/>		
Average yearly earnings,	\$496 78	\$496 49
Males,	\$531 10	\$530 91
Females,	317 47	335 77
Minors,	233 41	234 71
<hr/>		
Average daily wage,	\$1 71	\$1 65
Males,	\$1 82	\$1 77
Females,	1 09	1 12
Minors,	80	78
<hr/>		
Average value produced by each employe,	\$4,694 41	\$4,890 48
Total production, in dozens,	1,791,587	2,188,652
Leather, feet,		936,000
Leather, pounds,		125,000
Leather, hides,		15,878

LABOR SUPPLEMENT--SHOE LEATHER, ENAMEELED AND GLAZED KID.

Number of companies reporting,	15
Number of employes who own their homes,	114
Highest rent per annum,	\$180
Lowest rent per annum,	\$100
Average rent paid per annum,	\$143
Serious accidents,	1
Fatal accidents,	1
Days idle on account of bad weather, depression in business and repairs,	422
Companies working 60 hours per week,	8
Companies working 59 hours per week,	1
Companies working 58 hours per week,	1
Companies working 57 hours per week,	1
Companies working 55 hours per week,	2
Average working hours per week,	59
Number of employes and their nationality,	4,426
Americans,	1,244
English,	1
Germans,	298
Irish,	1
Polish,	976
Italians,	274
Russians,	5
Swiss,	1
Slavonians,	11
Jews,	1
Nationality not given,	1,614

SOLE AND HARNESS LEATHER.

	1907.	1906.
Number of establishments considered,	55	53
Capital invested (realty, machinery and working capital),	\$12,064,897	\$12,091,349
Market value of production,	39,770,975	43,108,793
Average number of days in operation,	304	303
Average number of wage earners employed,	4,549	4,991
Males,	4,531	
Minors,	18	
=====		
Aggregate amount of wages paid,	\$2,263,806	\$2,443,036
Males,	\$2,260,006	
Minors,	3,800	
=====		
Average yearly earnings,	\$497 65	\$489 49
Males,	\$498 57	
Minors,	211 11	
=====		
Average daily wage,	\$1 64	\$1 61
Males,	\$1 64	
Minors,	69	
=====		
Average value produced by each employe,	\$8,742 79	\$8,637 31
Total production, in sides,	176,962	
Total production, in pounds,	164,994,361	184,877,656

LABOR SUPPLEMENT—SOLE AND HARNESS LEATHER.

Number of companies reporting,	55
Number of employes who own their homes,	597
Highest rent per annum,	\$120
Lowest rent per annum,	\$22
Average rent paid per annum,	\$38
Serious accidents,	17
Fatal accidents,	3
Days idle on account of lack of hides, inspection and repairs,	316
Companies working 60 hours per week,	50
Companies working 59½ hours per week,	1
Companies working 59 hours per week,	1
Companies working 58½ hours per week,	1
Companies working 57 hours per week,	1
Companies working 54 hours per week,	1
Average working hours per week,	60
Number of employes and their nationality,	5,004
Americans,	1,947
English,	18
Germans,	200
Irish,	328
Scotch,	4
Swedes,	431
Polish,	610
Italians,	495
Swiss,	92
Hungarians,	285
Danes,	6
Austrians,	116
French,	65
Slavonians,	285
Greeks,	20
Russians,	4
Turks,	20
Roumanians,	27
Finlanders,	1
Belgians,	1
Macedonians,	43
Canadians,	3
Jews,	2
Africans,	1

AUXILIARY REPORTS TO LEATHER.

Number of establishments considered,	2
Capital invested (realty, machinery and working capital,	\$83,467
Number of days in operation,	313
Number of people employed,	98
Aggregate amount of wages paid,	\$66,951
Average yearly earnings,	683 17
Average daily wage,	2 18

LABOR SUPPLEMENT—AUXILIARY REPORTS TO LEATHER.

Number of companies reporting,	2
Number of employes who own their homes,	24
Serious accidents,	1
Companies working 60 hours per week,	2
Average working hours per week,	60
Number of employes and their nationality,	108
Americans,	75
Germans,	3
Italians,	1
Swiss,	2
Slavonians,	1
Swedes,	25
Scotch,	1

LOCKS, SAFES, VAULTS AND HARDWARE SPECIALTIES.

	1907.	1906.
Number of establishments considered,	11	11
Capital invested (realty, machinery, business, etc.),	\$2,496,946	\$2,452,540
Market value of production,	3,075,905	2,759,186
Average number of day in operation,	297	298
Average number of working people employed,	2,502	2,544
Males,	2,239	2,243
Females,	144	162
Minors,	119	139
=====		
Aggregate amount of wages paid,	\$1,046,530	\$1,099,512
Males,	\$983,984	\$1,024,738
Females,	42,290	50,777
Minors,	20,256	23,997
=====		
Average yearly earnings,	\$418 28	\$432 20
Males,	\$439 37	\$456 86
Females,	293 68	313 44
Minors,	170 22	172 64
=====		
Average daily wage,	\$1 41	\$1 45
Males,	\$1 48	\$1 53
Females,	99	1 05
Minors,	57	58
=====		
Average value of production for each employe, ..	\$1,229 38	\$1,084 58
Total production in quantities:		
Safes, in numbers,	2,500	2,000
Locks and hardware specialties, dozens,	740,101	559,573
Padlocks and hardware, in dozens,		61,276

LABOR SUPPLEMENT—LOCKS, SAFES, VAULTS AND HARDWARE SPECIALTIES.

Number of companies reporting,	11
Number of employes who own their homes,	48
Highest rent per annum,	\$156
Lowest rent per annum,	\$90
Average rent paid per annum,	\$123
Days idle on account of dull times and repairs,	18
Companies working 60 hours per week,	4
Companies working 59 hours per week,	1
Companies working 58 hours per week,	1
Companies working 57 hours per week,	1
Companies working 55 hours per week,	2
Companies working 53 hours per week,	1
Average working hours per week,	56
Number of employes and their nationality,	2,522
Americans,	790
English,	10
Germans,	105
Irish,	10
Scotch,	2
Hungarians,	1
Polish,	7
Russians,	2
French,	1
Swiss,	1
Nationality not given,	1,593

STRIKES.

Number 777 reports:

Days lost by strike, 12.

Strike not successful.

Strike arbitrated.

Strike began August 25, 1907.

Strike ended September 9, 1907.

Question involved in dispute: Readjustment of wages.

LOCOMOTIVES, STATIONARY ENGINES AND METALLIC PACKING.

	1907.	1906.
Number of establishments considered,	8	8
Capital invested (realty, machinery, business, etc.),	\$22,760,535	\$24,729,537
Market or realized value of product,	47,106,829	47,035,663
Average number of days in operation,	306	305
Average number of wage earners employed,	22,021	20,833
Males,	21,989	20,833
Minors,	32	
<hr/>		
Aggregate amount of wages paid,	\$15,048,271	\$13,783,399
Males,	\$15,042,127	\$13,783,399
Minors,	6,144	
<hr/>		
Average yearly earnings,	\$683 36	\$661 61
Males,	\$684 35	\$661 61
Minors,	192 00	
<hr/>		
Average daily wage,	\$2 22	\$2 17
Males,	\$2 22	\$2 17
Minors,	62	
<hr/>		
Average value produced by each employe,	\$2,139 18	\$2,257 75
Total production as given:		
Locomotives,	2,925	2,667
Engines,	186	529
Locomotives and engines, tons,	33,296	30,067

LABOR SUPPLEMENT—LOCOMOTIVES, STATIONARY ENGINES AND METALLIC PACKING.

Number of companies reporting,	8
Number of employees who own their homes,	123
Highest rent per annum,	\$192
Lowest rent per annum,	\$90
Average rent paid per annum,	\$147
Serious accidents,	177
Fatal accidents,	13
Days idle on account of slack times,	12
Companies working 125 hours per week,	1
Companies working 60 hours per week,	1
Companies working 59 hours per week,	1
Companies working 58 hours per week,	1
Companies working 57 hours per week,	2
Companies working 55 hours per week,	1
Companies working 54 hours per week,	1
Average working hours per week,	65
Number of employees and their nationality,	21,191
Americans,	472
Germans,	5
Polish,	3
Nationality not given,	20,711

MACHINERY AND CASTINGS.

	1907.	1906.
Number of establishments considered,	37	36
Capital invested (realty, machinery and working capital),	\$15,021,293	\$14,501,079
Market value of production,	18,463,620	18,572,135
Average number of days in operation,	289	304
Average number of wage earners employed,	6,686	6,562
Males,	6,653	6,506
Females,	4	5
Minors,	29	41
=====		
Aggregate amount of wages paid,	\$3,822,621	\$3,827,508
Males,	\$3,812,616	\$3,813,436
Females,	1,020	1,608
Minors,	8,985	12,464
=====		
Average yearly earnings,	\$571 73	\$584 17
Males,	\$573 07	\$586 11
Females,	255 00	321 60
Minors,	309 83	304 00
=====		
Average daily wage,	\$1 98	\$1 92
Males,	\$1 98	\$1 93
Females,	88	1 06
Minors,	1 07	1 00
=====		
Average value produced by each employe,	\$2,761 53	\$2,834 57
Total production as given:		
Forgings, in tons,	120,967	146,811
Machinery,	397	115
Traveling cranes,	102	120
Discs,	150,000	
Overhead trolleys,		85
Engines,	7	
Blocks,	2,413	
Installation,	77	
Hoists and tackle blocks,		1,416
Saws,	600	

LABOR SUPPLEMENT—MACHINERY AND CASTINGS.

Number of companies reporting,	37
Number of employes who own their homes,	202
Highest rent per annum,	\$300
Lowest rent per annum,	\$84
Average rent paid per annum,	\$168
Serious accidents,	162
Fatal accidents,	3
Days idle on account of high water,	8
Companies working 60 hours per week,	14
Companies working 59 hours per week,	4
Companies working 57½ hours per week,	2
Companies working 55 hours per week,	5
Companies working 54 hours per week,	11
Companies working 52½ hours per week,	1
Average working hours per week,	57
Number of employes and their nationality,	6,545
Americans,	2,477
English,	55
Germans,	380
Irish,	105
Hungarians,	191
Italians,	155
Prussians,	11
Greeks,	19
Russians,	24
Croatians,	1
Swiss,	2
Polish,	150
Swedes,	43
Austrians,	10
Negroes,	20
Slavish,	75
Nationality not given,	2,827

STRIKES.

Number 834 reports:

Days lost by strike, 60.

Employes affected by strike, 247.

Strike unsuccessful.

Not arbitrated.

Strike began May 20, 1907.

Strike ended July 20, 1907.

Question involved in dispute: Men struck for closed union shop.

Number 835 reports:

Employes affected by strike, 60.
Strike not successful.
Date beginning strike June 5, 1907.
Strike ended September 1, 1907.
Died a natural death.

Number 840 reports:

Days lost by strike, 61.
Employes affected by strike, 20.
Strike unsuccessful.
Strike began July 25, 1907.
Strike ended September 24, 1907.
Question involved in dispute: Their demand was a recognition of the union to regulate number of apprentices.

Number 845 reports:

Boiler shop.
Days lost by strike, 17.
Employes affected by strike, 105.
Strike unsuccessful.
Not arbitrated.
Strike began January 15, 1907.
Strike ended February 2, 1907.
Questions involved in dispute: Asked for advance in wages and recognition of union.

Number 845 reports:

Foundry.
Days lost by strike, 133.
Employes affected by strike, 60.
Strike not successful.
Not arbitrated.
Strike began June 1, 1907.
Strike ended November 2, 1907.
Questions involved in dispute: Asked for raise in minimum rate and advance of 20 cents a day.

Number 849 reports:

Employes affected by strike, 260.
Strike unsuccessful.
Not arbitrated.
Strike began April 26, 1907.
We are now running successfully open shop.
Questions involved in dispute: An increase in rate, shorter hours and recognition of Machinists' Union.

Number 866½ reports:

Days lost by strike, 181.

Date beginning strike May 1, 1907.

Strike ended December 1, 1907.

Question involved in dispute: Demand for increase of 33 per cent. in wages on part of the machinists.

MATTRESSES, SPRING BEDS, BEDDING, ETC.

	1907.	1906.
Number of establishments considered,	13	14
Capital invested (realty, machinery, business etc.),	\$438,168	\$491,475
Market value of production,	775,840	768,216
Average number of days in operation,	301	302
Average number of working people,	299	278
Males,	198	177
Females,	96	98
Minors,	5	3
=====		
Aggregate amount of wages paid,	\$136,877	\$139,868
Males,	\$109,620	\$106,581
Females,	26,473	32,755
Minors,	784	532
=====		
Average yearly earnings,	\$457 78	\$503 12
Males,	\$553 62	\$602 15
Females,	275 76	334 23
Minors,	156 80	177 33
=====		
Average daily wage,	\$1 52	\$1 66
Males,	\$1 84	\$1 99
Females,	92	1 11
Minors,	52	58
=====		
Average value of production for each employe, ..	\$2,594 78	\$2,763 36
Total production in given quantities:		
Mattresses,	55,721 .....	.....
Cots and couches,	21,227	90,655
Spring beds,	4,800 .....	.....
Mattresses, felt and cotton batting goods, ...	.....	825,000
Mattresses and pillows,	1,973	183,133

LABOR SUPPLEMENT—MATTRESSES, SPRING BEDS, BED- DING, ETC.

Number of companies reporting,	13
Number of employes who own their homes,	18
Highest rent per annum,	\$180
Lowest rent per annum,	\$75
Average rent paid per annum,	\$123
Days idle on account of high water,	5
Companies working 60 hours per week,	3
Companies working 59 hours per week,	2
Companies working 58 hours per week,	1
Companies working 57 hours per week,	1
Companies working 55 hours per week,	1
Companies working 54 hours per week,	1
Companies working 50 hours per week,	1
Companies working 72 hours per week,	1
Average working hours per week,	59
Number of employes and their nationality,	299
Americans,	144
English,	1
Germans,	12
Irish,	8
Swedes,	1
Jews,	2
Nationality not given,	131

METALLIC BEDS, BEDDING, COUCHES, ETC.

	1907.	1906.
Number of establishments considered,	6	6
Capital invested (in plants and working capital),	\$692,728	\$692,713
Market value of production,	1,568,327	1,588,995
Average number of days in operation,	299	302
Average number of wage earners employed,	648	603
Males,	591	552
Females,	51	26
Minors,	6	25
=====		
Aggregate amount of wages paid,	\$349,944	\$302,694
Males,	\$331,359	\$283,952
Females,	17,330	11,488
Minors,	1,255	7,254
=====		
Average yearly earnings,	\$540 03	\$501 98
Males,	\$560 67	\$514 41
Females,	339 80	441 84
Minors,	209 17	290 16
=====		
Average daily wage,	\$1 80	\$1 66
Males,	\$1 88	\$1 70
Females,	1 14	1 46
Minors,	70	96
=====		
Average value produced by each employe,	\$2,420 25	\$2,635 15
Total production as reported:		
Spring and metallic beds,	107,571	
Spring beds,		52,103
Metallic beds,		126,987
Cots and couches,	19,043	17,610
Pillows and bedding,	22,548	18,786
Mattresses,	29,078	
Hospital furniture, pieces,	17,679	18,849
Castings, tons,	276	3,819

**LABOR SUPPLEMENT—METALLIC BEDS, BEDDING,
COUCHES, ETC.**

Number of companies reporting,	6
Number of employes who own their homes,	41
Highest rent per annum,	\$192
Lowest rent per annum,	\$156
Average rent paid per annum,	\$172
Serious accidents,	4
Fatal accidents,	1
Days idle on account of high water,	3
Companies working 60 hours per week,	3
Companies working 59 hours per week,	1
Companies working 55 hours per week,	1
Companies working 54 hours per week,	1
Average working hours per week,	58
Number of employes and their nationality,	634
Americans,	384
English,	55
Germans,	111
Italians,	30
Polish,	10
Russians,	42
Jews,	2

MEN'S HATS AND CAPS.

	1907.	1906.
Number of establishments considered,	32	31
Capital invested (realty, machinery and working capital),	\$8,420,256	\$2,027,020
Market value of production,	13,594,903	10,562,161
Average number of days in operation,	303	304
Average number of wage earners employed,	7,350	7,377
Males,	5,172	5,455
Females,	1,845	1,614
Minors,	333	308
=====		
Aggregate amount of wages paid,	\$3,789,200	\$3,234,709
Males,	\$3,056,048	\$2,660,663
Females,	658,712	515,747
Minors,	74,440	58,299
=====		
Average yearly earnings,	\$515 54	\$438 49
Males,	\$590 88	\$487 75
Females,	357 03	319 55
Minors,	223 48	189 28
=====		
Average daily wage,	\$1 70	\$1 44
Males,	\$1 95	\$1 60
Females,	1 18	1 05
Minors,	74	62
=====		
Average value of production by each employe, ..	\$1,849 65	\$1,431 76
Total production given in dozens,	985,736	898,676
Average value per dozen,	\$13 79	\$11 82

LABOR SUPPLEMENT—MEN'S HATS AND CAPS.

Number of companies reporting,	32
Number of employes who own their homes,	2,492
Highest rent per annum,	\$300
Lowest rent per annum,	\$60
Average rent paid per annum,	\$166
Serious accidents,	1
Days idle on account of vacation and no orders,	78
Companies working 60 hours per week,	13
Companies working 59 hours per week,	2
Companies working 58 hours per week,	1
Companies working 55 hours per week,	4
Companies working 54 hours per week,	5
Companies working 52 hours per week,	1
Companies working 50 hours per week,	3
Companies working 48 hours per week,	1
Companies working 44 hours per week,	1
Average working hours per week,	53
Number of employes and their nationality,	7,270
Americans,	5,244
English,	10
Germans,	145
Irish,	6
Hungarians,	231
Italians,	239
Polish,	88
Russians,	289
Hebrew,	362
Greeks,	232
Austrians,	231
Norwegians,	1
Nationality not given,	192

STRIKES.

Days lost by strike, male, 8; female, 5.

Strike not successful.

Strike began October 7.

Strike ended November 3.

Question involved in dispute: More money for piece work.

MEN'S, WOMEN'S, MISSES' AND CHILDREN'S SHOES.

	1907.	1906.
Number of establishments considered,	60	61
Capital invested (realty, machinery and working capital),	\$10,361,655	\$5,096,354
Market value of production,	15,195,010	14,040,086
Average number of days in operation,	269	292
Average number of wage earners employed,	7,887	7,671
Males,	4,648	4,418
Females,	2,712	2,713
Minors,	527	540
<hr/>		
Aggregate amount of wages paid,	\$3,404,122	\$3,207,692
Males,	\$2,414,477	\$2,293,916
Females,	878,082	826,352
Minors,	111,613	87,424
<hr/>		
Average yearly earnings,	\$431 61	\$418 16
Males,	\$519 47	\$519 22
Females,	323 76	304 59
Minors,	211 79	161 90
<hr/>		
Average daily wage,	\$1 61	\$1 43
Males,	\$1 93	\$1 78
Females,	1 20	1 04
Minors,	78	55
<hr/>		
Average value produced by each employe,	\$1,921 32	\$1,830 28
Total production, given pairs,	11,662,389	11,472,369
Average value per pair,	\$1 30	\$1 22

LABOR SUPPLEMENT—MEN'S, WOMEN'S, MISSES' AND CHILDREN'S SHOES.

Number of companies reporting,	60
Number of employes who own their homes,	399
Highest rent per annum,	\$216
Lowest rent per annum,	\$72
Average rent paid per annum,	\$128
Serious accidents,	3
Days idle on account of repairs, stock taking and dull business,	59
Companies working 60 hours per week,	21
Companies working 59 hours per week,	6
Companies working 58½ hours per week,	1
Companies working 58 hours per week,	8
Companies working 57½ hours per week,	2
Companies working 57 hours per week,	4
Companies working 56 hours per week,	3
Companies working 55 hours per week,	7
Companies working 54 hours per week,	4
Companies working 53 hours per week,	1
Average working hours per week,	58
Number of employes and their nationality,	7,830
Americans,	5,970
English,	18
Germans,	189
Irish,	202
Scotch,	1
Hungarians,	6
Italians,	273
Polish,	7
Russians,	27
French,	6
Austrians,	1
Spanish,	1
Bavarians,	1
Jews,	3
Slavonians,	6
Nationality not given,	1,119

MINERS' CAPS, UNIFORM CAPS AND MILITARY GOODS.

	1907.	1906.
Number of establishments considered,	9	10
Capital invested (realty, machinery and working capital),	\$75,467	\$262,200
Market value of production,	177,914	497,469
Average number of days in operation,	291	295
Average number of wage earners employed,	92	282
Males,	29	121
Females,	60	153
Minors,	3	8
<hr/>		
Aggregate amount of wages paid,	\$39,193	\$110,725
Males,	\$18,971	\$69,860
Females,	19,698	39,507
Minors,	524	1,358
<hr/>		
Average yearly earnings,	\$426 01	\$392 64
Males,	\$654 17	\$577 35
Females,	328 30	258 52
Minors,	174 33	169 75
<hr/>		
Average daily wage,	\$1 46	\$1 33
Males,	\$2 25	\$1 96
Females,	1 13	88
Minors,	60	58
<hr/>		
Average value of production by each employe, ..	\$1,933 84	\$1,764 07
Total production in dozens,	74,796	160,431

LABOR SUPPLEMENT—MINERS' CAPS, UNIFORM CAPS AND MILITARY GOODS.

Number of companies reporting,	8
Number of employes who own their homes,	2
Highest rent per annum,	\$144
Lowest rent per annum,	\$96
Average rent paid per annum,	\$120
Companies working 59 hours per week,	1
Companies working 58 hours per week,	1
Companies working 54 hours per week,	1
Companies working 53 hours per week,	1
Companies working 50 hours per week,	1
Companies working 45 hours per week,	1
Companies working 40 hours per week,	1
Average working hours per week,	52
Number of employes and their nationality,	93
Americans,	64
Germans,	10
Irish,	7
Hebrews,	12

OIL CLOTH.

	1907.	1906.
Number of establishments considered,	2	2
Capital invested in plants and working capital,	\$1,800,000	\$1,800,000
Market value of production,	4,992,232	4,504,752
Average number of days in operation,	305	309
Average number of wage earners employed,	1,020	1,100
Males,	1,009	1,068
Females,	5	4
Minors,	6	8
<hr/>		
Aggregate amount of wages paid,	\$587,534	\$607,247
Males,	\$584,469	\$603,247
Females,	1,665	1,300
Minors,	1,400	2,700
<hr/>		
Average yearly earnings,	\$576 01	\$552 04
Males,	\$579 25	\$554 36
Females,	333 00	325 00
Minors,	233 33	337 50
<hr/>		
Average daily wage,	\$1 89	\$1 79
Males,	\$1 90	\$1 79
Females,	1 09	1 05
Minors,	77	1 09
<hr/>		
Average value produced by each employe,	\$4,894 34	\$4,065 23
Total production as reported:		
Oil cloth, yards,	17,839,411	11,970,000
Oil, in gallons,	554,643	
Average value per yard,	\$0 23	\$0 38

LABOR SUPPLEMENT—OIL CLOTH.

Number companies reporting,	2
Number of employes who own their homes,	20
Serious accidents,	16
Companies working 60 hours per week,	2
Average working hours per week,	60
Number of employes and their nationality,	1,020
Americans,	530
Germans,	100
Nationality not given,	390

OILS, PAINTS AND COAL TAR PRODUCTS.

	1907.	1906.
Number of establishments considered,	12	12
Capital invested (realty, machinery and working capital),	\$1,431,575	\$1,068,500
Market value of production,	2,235,829	2,080,682
Average number of days in operation,	307	305
Average number of wage earners employed,	229	224
Males,	210	199
Females,	19	25
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Aggregate amount of wages paid,	\$135,320	\$126,814
Males,	\$128,771	\$116,015
Females,	6,549	10,799
<hr/>		
Average yearly earnings,	\$590 91	\$566 13
Males,	\$613 19	\$582 99
Females,	344 69	431 96
<hr/>		
Average daily wage,	\$1 92	\$1 86
Males,	\$2 00	\$1 91
Females,	1 12	1 41
<hr/>		
Average value produced by each employe,	\$9,763 44	\$9,199 47
Total production in given quantity:		
Paste and plaster, in pounds,	9,863,700	2,241,685
Graphite, in pounds,	22,400,000	15,000,000
Paint, in gallons,	1,867,109	982,604
Paint, in pounds,	9,742,488	24,856,814
Varnish, in gallons,	34,805 .....	.....
Coal tar, gallons, .....	.....	621,000
Pulp, tons, .....	.....	1,750

LABOR SUPPLEMENT—OILS, PAINTS AND COAL TAR PRODUCTS.

Number of companies reporting,	12
Number of employes who own their homes,	9
Highest rent per annum,	\$180
Lowest rent per annum,	\$120
Average rent paid per annum,	\$147
Fatal accidents,	1
Companies working 70 hours per week,	1
Companies working 60 hours per week,	1
Companies working 59 hours per week,	1
Companies working 58 hours per week,	1
Companies working 57 hours per week,	2
Companies working 56 hours per week,	1
Companies working 54 hours per week,	1
Companies working 52 hours per week,	1
Companies working 50 hours per week,	1
Companies working 48 hours per week,	1
Companies working 40 hours per week,	1
Average working hours per week,	55
Number of employes and their nationality,	223
Americans,	131
Germans,	3
Irish,	13
Italians,	14
Austrians,	7
Nationality not given,	55

REFINED AND LUBRICATING OILS AND GREASE.

	1907.	1906.
Number of establishments considered,	19	20
Capital invested (realty, machinery and working capital),	\$23,727,706	\$5,122,360
Market or realized value of production,	42,001,014	16,532,106
Average number of days in operation,	304	323
Average number of wage earners employed,	4,261	916
Males,	4,162	914
Females,	6	2
Minors,	93	
<hr/>		
Aggregate amount of wages paid,	\$2,600,712	\$658,941
Males,	\$2,590,876	\$658,317
Females,	1,868	624
Minors,	16,968	
<hr/>		
Average yearly earnings,	\$612 46	\$719 37
Males,	\$622 51	\$720 26
Females,	311 33	312 00
Minors,	182 45	
<hr/>		
Average daily wage,	\$2 01	\$2 23
Males,	\$2 05	\$2 23
Females,	1 02	97
Minors,	60	
<hr/>		
Average value produced by each employe,	\$9,857 08	\$18,048 15
Total production as reported:		
Oil, in gallons,	654,282,041	242,838,199
Grease, pounds,	726,181	27,438,979
Wax, pounds,		781,618

LABOR SUPPLEMENT—REFINED AND LUBRICATING OILS AND GREASE.

Number companies reporting,	19
Number of employes who own their homes,	83
Highest rent per annum,	\$200
Lowest rent per annum,	\$84
Average rent paid per annum,	\$124
Serious accidents,	20
Fatal accidents,	3
Companies working 144 hours per week,	1
Companies working 120 hours per week,	2
Companies working 168 hours per week,	1
Companies working 84 hours per week,	1
Companies working 78 hours per week,	1
Companies working 70 hours per week,	2
Companies working 60 hours per week,	6
Companies working 58 hours per week,	2
Companies working 54 hours per week,	2
Average working hours per week,	80
Number of employes and their nationality,	3,878
Americans,	2,168
English,	49
Germans,	63
Irish,	78
Scotch,	14
Hungarians,	256
Italians,	96
Polish,	130
Swedes,	9
Norwegians,	13
Slavonians,	58
Jews,	23
Finlanders,	1
Brazilians,	1
Welsh,	4
Turks,	1
Canadians,	4
Manxman,	1
French,	4
Danes,	1
Austrians,	81
Negroes,	5
Nationality not given,	818

POWDER, HIGH EXPLOSIVES AND DYNAMITE.

	1907.	1906.
Number of establishments,	16	17
Capital invested (realty, machinery and working capital),	\$4,796,047	\$2,989,282
Market value of production,	4,965,079	4,020,921
Average number of days in operation,	292	272
Average number of wage earners employed,	751	815
Males,	715	759
Females,	33	33
Minors,	3	23
<hr/>		
Aggregate amount of wages paid,	\$499,551	\$477,898
Males,	\$488,816	\$457,928
Females,	10,109	12,634
Minors,	626	7,336
<hr/>		
Average yearly earnings,	\$665 17	\$586 38
Males,	\$653 47	\$603 33
Females,	306 33	382 85
Minors,	208 66	318 96
<hr/>		
Average daily wage,	\$2 28	\$2 16
Males,	\$2 28	\$2 22
Females,	1 05	1 41
Minors,	71	1 17
<hr/>		
Average value produced by each employe,	\$6,611 29	\$4,933 64
Total production:		
Powder, in pounds,	84,569,274	71,545,631
Dynamite, in pounds,	10,000	
Average value per one hundred pounds,	5 87	5 60

LABOR SUPPLEMENT—POWDER, HIGH EXPLOSIVES AND DYNAMITE.

Number of companies reporting,	16
Number of employes who own their homes,	60
Highest rent per annum,	\$120
Lowest rent per annum,	\$72
Average rent paid per annum,	\$90
Serious accidents,	1
Fatal accidents,	9
Days idle on account of explosion, depression and repairs,	297
Companies working 60 hours per week,	6
Companies working 54 hours per week,	5
Companies working 50 hours per week,	2
Companies working 48 hours per week,	3
Average working hours per week,	55
Number of employes and their nationality,	1,021
Americans,	493
English,	22
Germans,	22
Irish,	10
Scotch,	8
Italians,	24
Polish,	2
Russians,	1
Swedes,	17
Welsh,	9
Austrians,	19
French,	3
Nationality not given,	391

SHOVELS, SPADES, SCOOPS AND RAILWAY SUPPLIES.

	1907.	1906.
Number of establishments considered,	11	11
Capital invested (realty, machinery and working capital),	\$2,162,401	\$2,113,159
Market value of production,	2,694,992	2,184,771
Average number of days in operation,	286	293
Average number of wage earners employed,	1,108	1,075
Males,	1,066	1,048
Females,	25	25
Minors,	17	7
<hr/>		
Aggregate amount of wages paid,	\$659,415	\$635,366
Males,	\$646,704	\$625,400
Females,	8,525	8,364
Minors,	4,186	1,602
<hr/>		
Average yearly earnings,	\$595 14	\$591 04
Males,	\$606 66	\$599 62
Females,	341 00	334 56
Minors,	246 23	288 86
<hr/>		
Average daily wage,	\$2 08	\$2 02
Males,	\$2 12	\$2 04
Females,	1 19	1 14
Minors,	86	78
<hr/>		
Average value produced by each employe,	\$2,432 30	\$2,032 44
Total production as reported:		
Dozens shovels, scoops and spades,	405,332	340,816
Tons, railway supplies,	9,567	10,885

LABOR SUPPLEMENT—SHOVELS, SPADES, SCOOPS AND RAILWAY SUPPLIES.

Number of companies reporting,	11
Number of employees who own their homes,	85
Highest rent per annum,	\$180
Lowest rent per annum,	\$65
Average rent paid per annum,	\$142
Days idle on account of floods, repairs and dull business,	128
Companies working 60 hours per week,	3
Companies working 59 hours per week,	2
Companies working 58 hours per week,	1
Companies working 57 hours per week,	1
Companies working 55 hours per week,	2
Companies working 54 hours per week,	1
Companies working 42 hours per week,	1
Average working hours per week,	56
Number of employees and their nationality,	1,110
Americans,	807
English,	32
Germans,	77
Irish,	24
Hungarians,	22
Italians,	38
Polish,	90
Russians,	5
Swedes,	1
Slavonians,	3
Bohemians,	6
Nationality not given,	5

**FINDINGS OF THE ARBITRATOR IN THE SILK MILL STRIKE,
IN LACKAWANNA AND LUZERNE COUNTIES, PENNSYLVANIA, 1907.**

The following brief statement of the demands made upon the manufacturers by the employes through their organizers, sets forth the several questions for arbitration.

THE DEMANDS.

I.—A fifty hour week. No one shall work more than nine hours in any one day—and only five hours on Saturday.

II.—All employes shall become and remain members of the United Textile Workers, and within one week after entering employment shall make application to the union for membership.

III.—The employer shall deduct from the wages of the employe on the last pay day of each month, such dues, fines, contributions, and assessments as may be levied for the month, and shall pay to the elected agent or representative of the members, all such fines, dues, etc., on the Monday following the last pay day of each month.

IV.—A minimum rate or wages shall be established.

V.—Representatives of the union and representatives of the manufacturers shall be chosen to work jointly in adjusting all matters arising in the way of disputes or grievances.

In support of their contention, the parties to the controversy submitted briefs—the organizers in support of their demands, and the manufacturers in justification of their refusal to grant them.

Taking the demand in the order stated, the first is:

THE FIFTY HOUR WEEK.

The hours constituting a week's work in all textile employment have in the past been determined by the Acts of Legislature in the various states.

The law in Pennsylvania makes sixty hours the basis for such employment. New Jersey, fifty-five hours, and in New England a law went into effect the first of last September reducing the hours from sixty to fifty-eight. Such is the actual situation in the silk industry of the country.

The question of hours is perhaps the principal contention in the present controversy. The toilers through their representatives very ably plead for a fifty hour week, and the reasons given are pathetic and deserve sympathy.

The employes, through their representatives, substantiate their demands with the following statistics;

"Total silk spindles employed in the United States are 2,453,599, of which 1,203,617 are located in Pennsylvania, and but 200,000 in our valley."

The employers, in their brief, state the following figures:

"According to the Silk Directory for the present year, there are over 800 mills working on various schedules. It is estimated that in the throwing branch of the industry, about five per cent. work on a fifty-five hour basis; 25 per cent. on a fifty-eight to fifty-eight and one-half hour basis and the remaining 70 per cent. on a sixty hour basis. In the weaving branch about 20 per cent. work on a fifty-five hour basis; 20 per cent. on a fifty-eight to fifty-eight and one-half hour basis, and the remaining 60 per cent. on a sixty hour basis."

Even disregarding the figures submitted by the employers, and accepting those figures shown by the representatives of the employes, our valley represents about one-twelfth (1-12) of all the silk spindles in the United States, and only one-sixth (1-6) of the spindles in our own State of Pennsylvania. In fairness to the employers, I am glad to state, that my investigation has shown the mills in our valley, representing the one-sixth (1-6) of the spindles, work now, and have been working, for the last six years, somewhat shorter hours than the mills located in other parts of our State. While nearly all the mills in our valley have been complying with a fifty-eight and one-half hour basis per week, the rest, with very few exceptions, have been working, and are now working, sixty hours per week, being the full limit as permitted by law.

To restrict the one-sixth (1-6) interest in business of throwing, and but an insignificant small percentage of the weaving branch, to a fifty hour week, while the remaining mills, even in our own State, are still enjoying a sixty hour week, would be dangerous to both employer and employe alike, for the reason that our mills would operate at a great disadvantage in competition, and likely to lose the share of business we wish, above all, to retain for our workers and industries.

However, it is conceded that the present working hours are too arduous, and ultimately must be lowered by statute or otherwise. It is also claimed that by shortening the hours, the operatives will work with more vigor and do more and better work in a shorter day than they can at present, working for five days at ten and one-half long hours, and on Saturday six hours.

The trend for a shorter workday for the wage earner is general and irresistible. It affords, perhaps, the greatest and most fruitful hope for betterment and improvement of the masses. In the case in question it is plainly evident that a reduction to fifty-five hours of labor per week would greatly benefit the employes without undue hardship to the employer. The fifty hour week is sure to come, but

it must come gradually, and a nine hour day must precede an eight hour one, if we would consider the prosperity of the silk mills in our valley.

The arbitrator, therefore, concludes and so adjudges and awards: That all mills signatory to this arbitration reduce their working time to fifty-five hours per week, which time shall constitute, and be paid for, as one week's labor.

While the distribution of these hours may be left to the respective mills to meet local convenience, it is recommended that where the custom exists of a half hour intermission for dinner, the working hours will be from 7 a. m. to noon, and from 12.30 to 5.30 p. m. In localities where the forty minute intermission for dinner prevails, the working hours will be from 7 a. m. to noon, and from 12.40 to 5.40 p. m. On Saturday the working hours shall be from 7 a. m. to 12 o'clock.

SECOND DEMAND.

Membership in the Union.

At the present time there is everywhere a notable lack of organization among textile workers. Although much has been done in this valley since the present agitation has begun, there is still a deplorably large percentage of the workers outside of the union—and this makes the consideration of this demand very hard for the arbitrator. Would that the toilers could see the great advantage of voluntarily affiliating themselves with their unions.

Compulsory membership in an organization is an action of questionable value. Perhaps the better way to induce membership in labor organizations is to make them attractive by pointing out the strength and influence of organized effort; by educating its members to the philosophy of a calm, dispassionate discussion of their grievances and an intelligent presentation of them to their employers and to the public. The basic principal of organization is to reach improved conditions and a higher standard of living by lawful means.

Since membership in the union as a condition of employment, has proved beneficial to employer as well as employe, in many branches of labor, it should be remembered that it exists principally, if indeed not exclusively, in organizations of adult workers and where the toilers make a life profession of their trades. In the case in question a very large percentage of the workers are mere children, and because of their age and inexperience do not readily understand the nature of contracts, added to which is the continuous changes in the personnel of their members.

In the present case the demand that membership in the union be a condition of employment is very difficult to grant, without seeming,

under existing conditions, to insist upon compulsory membership in the union, and this is certainly beyond the power of an arbitrator. The claim of the worker that he should not be obliged to involuntarily become a member of an organization is sanctioned by law and morals; for he may always exercise his right as a free agent.

The arbitrator, therefore, concludes, and so adjudges and awards: That in the mills affected by this decision, association in a labor union shall be voluntary; and that no employe shall suffer, socially or otherwise, because of his or her non-membership in the union.

THIRD DEMAND.

The Check-off System.

It is evident, indeed, that the granting of this demand would materially aid in perpetuating the life of the union. The arbitrator is constrained to acknowledge, also, that many of the arguments made in its favor are clear, earnest and strong to the point of convincing. But in its inner essence it contains so much in common with the demand just discussed as to almost make it a corollary. The collection of dues, fines, etc., through the office of an employer, without the consent of the employe, is of doubtful legal sanction. The fact that it may be done elsewhere neither removes that doubt nor does it give warrant to others to follow it. In addition to that it makes for a species of force and involuntary service in a practice with which the worker may have but passing sympathy if indeed not confirmed antipathy. However, there may be little objection to such collection if a signed order be made by the employes, to their employer, covering such deductions from their respective earnings and designating to whom such dues, fines, etc., shall be paid.

The arbitrator, therefore, concludes, and so adjudges and awards: That in the mills signatory to this arbitration there shall be no dues, fines, etc., collected through the office of the employer without the written consent of the employe, and designating to whom such dues, fines, etc., shall be paid; and no employe refusing such collection shall suffer, socially or otherwise, because of non-compliance with such demand.

FOURTH DEMAND.

The Minimum Wage.

Up to the time of closing the arguments for matters in dispute the wage question was not an issue, the representatives of the employes requesting re-adjustment only, in order that the wages be not reduced through the shortening of the hours as demanded and expected.

The brief submitted by the representatives of the employes con-

tains a comparison of wages paid here and in Paterson, N. J. Admitting that the mills in Paterson employ 78 8-10 per cent. more men wage earners than the Pennsylvania mills; that Pennsylvania mills employ 22 5-10 per cent. more women, and 303 6-10 per cent. more children. To compare wages paid in Paterson, where there is such percentage of men working, to those paid in Pennsylvania to women and children, is not a fair comparison, the figures being rather misleading. In the arbitrator's tour of investigation, and from actual inspection of pay rolls, he is frank to admit that wages paid in many mills in Pennsylvania compare favorably to wages paid in New Jersey. On the other hand, he found many mills located in our valley pay much lower wages than their neighboring manufacturers; and since the wage issue was not entrusted to the arbitrator, strictly speaking, for a radical change, the authority vested in him to readjust it, gives him the privilege of equalizing it on a more satisfactory basis. The differences so found are more conspicuous in the throwing branch than in the weaving, so that the arbitrator finds it advisable to establish a minimum wage rate for the throwing branch. He, therefore, concludes, and so adjudges and awards: That in the mills signatory to this arbitration the following schedule of rates be observed and paid:

Throwing Department.

Minimum rate for winders, doublers and twistors:

Learners up to six months,	\$2.00 per week.
After six months, to twelve months, ..	2.50 per week.
After twelve months to eighteen months,	3.00 per week.
After eighteen months to twenty-four months,	3.75 per week.
After twenty-four months, at least,...	4.50 per week.
Tussah workers 50 cents per week additional, or,	5.00 per week.

Minimum rate for first time spinners and reelers:

Learners up to six months,	\$2.00 per week.
After six months to twelve months, ..	2.50 per week.
After twelve months to eighteen months,	3.00 per week.
After eighteen months to twenty-four months,	3.50 per week.
After twenty-four months at least, ..	4.00 per week.

Weaving Department.

In the weaving branch where most of the work is done on piece work, the arbitrator found a more equalized system of rates. To establish a minimum rate here would be very difficult, for the reason that each mill makes a different standard of goods, and these standards change with style and season. The best solution the arbitrator can recommend is to advance the present rates five (5) percentum for all mill hands, either on piece work or week work; in other words, the piece workers to receive their present rate per yard or piece, with an additional five (5) per cent., and the week workers to receive for fifty-five hours the same weekly earnings as before with an additional five per cent. increase.

The change to affect mill hands only, and not to include loom fixers, foremen, forewomen, machinists, carpenters, engineers, etc. The arbitrator, therefore, concludes, and so adjudges and awards: That in the weaving mills, signatory to this arbitration the rate of wages now paid mill operatives, either on week or piece work, which includes those whose working hours have been reduced to fifty-five (55) per week, with the exception of those noted above, be advanced five (5) per centum.

FIFTH DEMAND.

Settlement of Grievances.

This arbitration would certainly not be complete without leaving some method by which disputes and grievances arising between employer and employes shall be settled during the life time of this agreement.

To follow what seems to be the natural order of adjustment, it should be the duty of the employe to first make every honorable effort to reach settlement of grievances with the employer. Failing in this the majority of the workers shall elect a representative to confer with the representatives of the employer and these shall constitute a board to whom disputes and grievances shall be taken for settlement. If these representatives should be unable to reach a decision, the president judge of the county in which the disputes and grievances may take place may be called upon to act as the referee and his decision shall be binding and final.

Life of the Awards and When Effective.

In the brief submitted by the representatives of the employes there is urgent demand that the awards from this arbitration shall continue in force for two years. The employers contend that the awards shall continue for five years, arguing that two years is a period too short in which to give them a fair trial. The arbitrator

has reason to believe that a period of time between these two extremes shall be sufficient to demonstrate their practical workings and give opportunity to revise their provisions within a reasonable time, should any of the said awards be unjust or unwise.

The arbitrator, therefore, concludes, and so adjudges and awards: That in the mills signatory to this arbitration the decisions and awards be, and hereby are, effective and binding for period of three years, from the date hereof—and the arbitrator further adjudges and awards: That the said decisions and awards shall be effective from the date of the return of the striking employes to their respective callings in the mills herein noted; and that the excess wages accruing therefrom be paid the beneficiaries on or before their first regular pay in December, 1907.

The Mills Affected.

The phrase, "The mill signatory to this arbitration," means and refers to the mills located in Lackawanna and Luzerne counties.

A Recommendation to the Legislature.

The arbitrator, because of the power delegated to him in this controversy, feels that he is neither exceeding his authority, nor doing violence to the proprieties, by recommending that the legislature reduce by statute, the working hours of textile employes. A knowledge of their conditions in the matter of long working hours forces the conclusion that the law-making power of the different states in which they labor should be appealed to, that the hours of toil may be lessened without any reduction in their earnings. An equalization of the working time can be effected by legislation when arbitration, which is appealed to only now and then, can be of only partial help, because the territory in which it is exercised is only a part of the great producing centers of textile manufacturing.

It is needless to add that the young womanhood now engaged in textile work should neither be burdened with long hours nor excessive toil. The state legislature affords a practical and effective method of correcting such abuses and bringing redress to these thousands of toilers, whose labor is long and arduous.

A Word in Closing.

It would be unkind, perhaps, for the arbitrator to close this report of his finding without saying a gracious word to those who have aided him in his efforts to reach a satisfactory conclusion of the work entrusted to him. This is particularly due the press of the country whose uniform courtesy has been generous and sincere. The manufacturing interest, both at home and elsewhere, have done all that could be expected of them to render his work fruitful and satisfac-

tory. The toilers and their representatives were industrious in gathering such information as an arbitrator of this kind required and without which it could not be brought to a successful issue. To all these interests he is grateful and taken this opportunity to publicly thank them.

The arbitrator's investigation of the controversy between the mill owners and their employes, has impressed him with the great benefits coming from the silk industry to the thousands of homes throughout the country. It provides a livelihood for a class of workers which could not perhaps become earners in any other way. In this particular it fills a place in the industrial world especially and peculiarly its own. When it shall have reached that state of reciprocal perfection and development to which intelligence and humanity are bound to bring it, we shall be perforced to look upon it as one of the great industries of our great country.

If the arbitrator were to offer one more word of advice to the contending hosts it is that they should cultivate the teachings of the golden rule, and learn that their interests are so closely interwoven that they must bear and forbear, that both may reap beneficially from their contractual relations.

May the spirit of the Christmas time be about them, and may the spirit of the Christ Child animate them.

THOS. F. COFFEY,
Arbitrator.

St. Rose Church,
Carbondale, Pa., December 6, 1907.

St. Rose Rectory,
6 North Church Street,
Carbondale, Pa.

To the Silk Manufacturers:

In the matter of deduction of dues from the wages of the employes, the arbitrator is asked for a clearer interpretation of the meaning of his decision, and judging from the several inquiries made, it would appear that there is a decided misunderstanding in the question. While the matter of wages and hours of labor are made obligatory, the payment of dues is meant to be voluntary. It did not enter the mind of the arbitrator to make the payment voluntary on the part of the employes, and the handling of the funds obligatory on the part of the employer, it should be done with a common consent or understanding if possible, otherwise it would hurt the cause for which it is intended.

The arbitrator further directs that the employer will not only, not interfere in any way with the authorized collectors of the dues of the workers, but will provide all the means in his power to assist them in their work.

THOS. F. COFFEY,
Arbitrator.

December 7, 1907.

*BROAD SILKS.

The silk industry has in the last twelve months presented such unusual conditions that they will be remembered for a long time. Veterans admit that they have never gone through such a collapse of price basis as we have seen since October, 1907. The Spring season of 1907 started well, and the demand for goods was so large that manufacturers pushed their looms to the utmost capacity. Orders were obtainable for the Fall season of 1907 at fair prices, although afterwards raw silk went so high that unless a manufacturer had covered himself when he took his orders, there could be no profit in them for him; in purchasing raw silk later for such orders he had to pay more, and his profit was thus cut down to very little. It was the usual story of advances on the prices of woven goods being very hard to get, and some manufacturers not quite believing in a further rise in raw silk prices took the chance of booking orders at close prices.

The situation in September was a peculiar one, the throwsters' strike having been in force for about two months, which considerably curtailed the production of the yarn dyed silk manufacturers. This fact, in connection with the still growing consumption of silk goods, encouraged the buyers to place their orders for Spring at prices nearer in accordance with the then prevailing high basis for raw silk. Everything looked well and prosperous until the financial panic, which, starting in October, has since caused widespread liquidation. The restriction of the purchasing power, as a result of the panic, has made itself felt in the silk industry.

Had the Spring season of 1908 been a normal one, we would not have had sufficient goods, and the throwsters' strike, which helped to keep down the stocks of woven goods, was really a blessing in disguise. As the Spring season of 1908 is thus far an abnormally small one (some say 75 per cent. of the normal consumption, but up to now it seems to be rather nearer to 65 per cent.), some surplus stocks of silk goods were accumulated, and a few silk manufacturers thought it best to get rid of these by auction, in order to more quickly sell on the lower basis of manufacturer, which in the meantime has been

*1908 Annual Report. Silk Association of America.

warranted by the cost of raw silk. The fact that last Summer, for about two months, only around 65 per cent. of the broad silk looms could be run, because of the throwsters' strike, and the fact that since the financial panic the production of the looms has again been cut down, resulting in barely 50 per cent. of the looms being kept busy, has helped to minimize the demoralization in the silk goods market, as shown to date. It is, however, expected, and in fact demonstrated, that in some goods there is already a scarcity, and if, as all hope, the demand shall increase, the scarcity will be still more apparent.

Nevertheless, the situation is not a good one for the silk manufacturers; the enormous depreciation in values will make it a very lean year for them. Even the most prudent merchants have been caught by this collapse with some high priced raw silks, and heavy losses must be faced. Too little capital and the loose methods governing trading are the main reasons why some silk manufacturers have been compelled to go into receivers' hands, and others to make some arrangement with their creditors.

With more favorable financial and trading conditions much of this would have been averted, and did the same inviolability of contract govern in the placing of woven product as governs with the purchase of raw silk, our industry would be in a much better condition and upon a sounder basis.

*THE THROWING INDUSTRY.

There has never been in years, a time when the prospects for the throwing business were so bright as at the beginning of 1907, nor a time when the results were so unsatisfactory, owing to various causes. For the first six months of the year all the spindles were taxed to their utmost capacity, as the scarcity of labor made it impossible for the average throwing plant to produce more than 80 to 85 per cent. of its normal output. These times were also very unsatisfactory to the manufacturer, as he was continually on the anxious seat for fear his supply of thrown silk would fall short of his requirements. Notwithstanding these facts and that labor was continually demanding advance in wages, and also that the cost of all supplies had advanced, the throwster did not advance prices.

On July 15th, the strike throughout the Scranton district began and lasted until the middle of October. The production of thrown silk, thus curtailed, varied at different periods, between 50,000 and 100,000 pounds per week. Conservatively speaking, the average production was 75,000 pounds per week less than the demand, while the strike lasted, or from the middle of July to the middle of Octo-

*1908 Annual Report, Silk Association of America.

ber. Thus, it is fair to assume that the manufactured product in the various branches of the industry was about \$8,000,000 less than it would have been had there been no strike.

Looking back on what followed after October, the strike was a blessing in disguise to the manufacturers. It can truthfully be said that the throwsters who were fortunate enough to have their plants in operation during the labor difficulties took no advantage of the situation to raise prices, with but few exceptions. All kinds of inducements as to price, future business, etc., etc., were offered by manufacturers who were short of thrown silk, but the production of the spindles operating was given by the throwster to his regular customers at the rates prevailing before these unusual conditions. While labor has been demanding, and receiving, large advances, and while other things entering into the cost have advanced, there has been no machinery placed on the market which lessens the labor cost of throwing. There are spinning frames of comparatively recent date that do better work when the best quality of raw is used; but, taking into consideration power, repairs, cost of maintenance, etc., there is no economy for the throwster.

The establishment of the recognized and official conditioning works is most welcome to the throwster, and it is to be hoped that its benefits may be more appreciated in the future. There have been in the past many instances where, innocently, grave injustice has been done to both manufacturer and throwster through the lack of official tests of the boil-off, conditioning, etc.; also from the fact that there never have been, until recently, rules to govern in these matters. The Silk Throwsters' Association has adopted rules which have been approved by the Silk Association of America, being practically the same rules which obtain in Europe. In future, any cases of dispute can, with the aid of the conditioning works, be settled in a way to leave no doubt as to the justice or injustice of any question arising between the throwster and his customer. Conditions require, and manufacturers justly demand, a more perfect product; but the manufacturer should realize that the throwster must obtain a price which will enable him to turn out good work, conscientiously done.

SILK DRESS GOODS AND THROWING.

	1907.	1906.
Number of establishments considered,	73	69
Capital invested (realty, machinery and business, etc.),	\$18,037,744	\$18,599,912
Market value of production,	33,570,598	29,725,760
Average number of days in operation,	294	264
Average number of wage earners employed,	16,006	15,295
Males,	3,671	3,336
Females,	10,089	10,096
Minors,	2,246	1,863
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Aggregate amount of wages paid,	\$5,424,102	\$4,528,380
Males,	\$2,084,784	\$1,474,707
Females,	2,885,206	2,739,557
Minors,	454,113	314,116
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Average yearly earnings,	\$338 88	\$296 00
Males,	\$567 91	\$442 06
Females,	285 97	271 35
Minors,	202 18	168 61
<hr/>		
Average daily wage,	\$1 15	\$1 12
Males,	\$1 93	\$1 67
Females,	99	1 03
Minors,	68	64
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Average value of production,	\$2,097 38	\$1,296 58
Total production in given quantities:		
Silk dress goods, yards,	46,806,292	42,957,767
Silk throwing, pounds,	1,365,546	1,382,523
Silk ribbons, yards,		49,460
Silk handkerchiefs, dozen,		62,968

LABOR SUPPLEMENT—SILKS, DRESS GOODS AND THROW- ING.

Number of companies reporting,	73
Number of employes who own their homes,	212
Highest rent per annum,	\$180
Lowest rent per annum,	\$60
Average rent paid per annum,	\$118
Serious accidents,	2
Days idle on account of dull business, inventory and repairs,	226
Companies working 60 hours per week,	21
Companies working 59 hours per week,	12
Companies working 58½ hours per week,	3
Companies working 58 hours per week,	7
Companies working 57½ hours per week,	3
Companies working 57 hours per week,	9
Companies working 56 hours per week,	1
Companies working 70 hours per week,	1
Companies working 55 hours per week,	16
Average working hours per week,	59
Number of employes and their nationality,	11,650
Americans,	9,706
English,	45
Germans,	385
Irish,	465
Scotch,	9
Hungarians,	20
Italians,	125
Polish,	283
Russians,	10
French,	1
Slavish,	141
Lithuanians,	13
Tivolians,	4
Greeks,	3
Swiss,	15
French,	10
Welsh,	233
Austrians,	180
Hebrews,	2

STRIKES.

Number 440 reports:

Days lost by strike, 12.

Employees affected by strike, 85.

Strike not successful.

Not arbitrated.

Strike began September, 1907.

Strike ended October, 1907.

Question involved in dispute: Reduction in hours.

Number 443 reports:

Days lost by strike, 70.

Employees affected by strike, 962.

Strike was successful.

Arbitrated.

Strike began July 23, 1907.

Strike ended October 14, 1907.

Questions in dispute:

The Demands.

I.—A fifty hour week. No one shall work more than nine hours in any one day, and only five hours on Saturday.

II.—All employees shall become and remain members of the United Textile Workers and within one week after entering employment shall make application to the union for membership.

III.—The employer shall deduct from the wages of the employee on the last pay day of each month, such dues, fines, contributions and assessments as may be levied for the month, and shall pay to the elected agent or representative of the members, all such fines, dues, etc., on the Monday following the last pay day of each month.

IV.—A minimum rate of wages shall be established.

V.—Representatives of the union and representatives of the manufacturers shall be chosen to work jointly in adjusting all matters arising in the way of disputes or grievances.

Number 447 reports:

Days lost by strike, 63.

Employees affected by strike, 198.

Strike partially successful.

Strike arbitrated.

Strike began July 31, 1907.

Strike ended October 14, 1907.

Question involved in dispute: Shorter hours.

Number 453 reports:

Days lost by strike, 50.

Employees affected by strike, 72.

Strike arbitrated.

Strike successful.

Strike began August 1, 1907.

Strike ended September, 1907.

Questions involved in dispute: Shorter hours, increase in wages, check off system, closed shop.

Number 459a reports:

Days lost by strike, 2.

Employees affected by strike, 203.

Not successful.

Not arbitrated.

Strike began December 12, 1907.

Strike ended December 14, 1907.

Question involved in dispute: The inspection of goods arising out of the slump in business.

Number 459 b reports:

Days lost by strike, 3.

Employees affected by strike, 84.

Strike unsuccessful.

Not arbitrated.

Strike began August 8, 1907.

Strike ended August 12, 1907.

Question involved in dispute: The operators wished to work 40 hours per week only instead of 60.

Number 461 reports:

Days lost by strike, 60.

Employees affected by strike, 37.

Strike successful.

Strike arbitrated.

Strike began August 10, 1907.

Strike ended October 12, 1907.

Questions involved in dispute: Rate of wages and hours of work.

Number 463 reports:

Number days lost by strike.

Employees affected by strike, 14.

Strike unsuccessful.

Not arbitrated.

Strike began April 2, 1907.

Strike ended April 2, 1907.

Question involved in dispute: Wages.

Number 472a reports:

Days lost by strike, 22.
Employees affected by strike, 215.
Strike successful.
Strike arbitrated.
Strike began July 25, 1907.
Strike ended August 19, 1907.
Questions involved in dispute: Shorter hours and more money.

Number 479 reports:

Days lost by strike, 12.
Employees affected by strike, 160.
Strike arbitrated.
Strike began August 27, 1907.
Questions involved in dispute: Higher wages and shorter hours.

Number 479½ reports:

Days lost by strike, 66.
Employees affected by strike, 35.
Strike arbitrated.
Strike began July 26, 1907.
Strike ended October 14, 1907.
Question involved in dispute: Demands were for an eight hour day; arbitrator gave them 55 hours a week.

SILK RIBBONS, DRESS GOODS AND THROWN SILK.

	1907.	1906.
Number of establishments considered,	26	21
Capital invested (realty, machinery, business, etc.),	\$3,775,185	\$3,994,243
Market value of production,	9,755,522	7,906,850
Average number of days in operation,	296	270
Average number of wage earners,	5,409	4,593
Males,	2,140	1,985
Females,	2,742	2,110
Minors,	527	498
<hr/>		
Aggregate amount of wages paid,	\$1,989,401	\$1,662,250
Males,	\$1,083,689	\$990,102
Females,	808,147	584,266
Minors,	97,565	87,882
<hr/>		
Average yearly earnings,	\$367 79	\$361 91
Males,	\$506 39	\$498 79
Females,	299 10	276 90
Minors,	185 13	176 47
<hr/>		
Average daily wage,	\$1 24	\$1 24
Males,	\$1 71	\$1 85
Females,	99	1 03
Minors,	63	65
<hr/>		
Average value produced by each employe,	\$1,803 57	\$1,721 50
Total production in given quantities:		
Silk ribbons and dress goods, yards,	81,905,309	92,789,215
Silk goods in pounds,	167,575	94,832
Boxes,	5,856	.....
Ribbon rolls, .....	.....	15,774
Dress goods, yards, .....	.....	1,872,102

LABOR SUPPLEMENT—SILK RIBBONS, DRESS GOODS AND THROWN SILK.

Number of companies reporting,	26
Number of employes who own their homes,	111
Highest rent per annum,	\$180
Lowest rent per annum,	\$60
Average rent paid per annum,	\$117
Days idle on account of stock taking,	6
Companies working 60 hours per week,	8
Companies working 59 hours per week,	6
Companies working 58 hours per week,	9
Companies working 55 hours per week,	3
Average working hours per week,	59
Number of employes and their nationality,	4,876
Americans,	3,379
English,	6
Germans,	183
Irish,	33
Hungarians,	55
Italians,	71
Russians,	68
Swiss,	104
Austrians,	3
French,	5
Welsh,	23
Nationality not given,	946

THROWN SILK.

	1907.	1906.
Number of establishments considered,	51	51
Capital invested (realty, machinery, business, etc.),	\$9,065,811	\$4,750,141
Market value of production,	9,454,710	6,881,525
Average number of days in operation,	255	276
Average number of wage earners employed,	6,920	6,440
Males,	1,216	953
Females,	4,292	3,761
Minors,	1,412	1,726
=====		
Aggregate amount of wages paid,	\$1,364,467	\$1,262,339
Males,	\$411,984	\$335,496
Females,	763,857	674,014
Minors,	188,626	252,829
=====		
Average yearly earnings,	\$197 18	\$196 20
Males,	\$338 80	\$352 04
Females,	177 97	179 26
Minors,	133 60	146 48
=====		
Average daily wage,	\$0 77	\$0 71
Males,	\$1 33	\$1 27
Females,	70	65
Minors,	52	53
=====		
Average value produced by each employe,	\$1,366 29	\$1,068 56
Silk throwing pounds,	4,832,732	4,337,594
Silk throwing yards,	365,034	

LABOR SUPPLEMENT—THROWN SILK.

Number of companies reporting,	50
Number of employees who own their homes,	901
Highest rent per annum,	\$250
Lowest rent per annum,	\$60
Average rent paid per annum,	\$109
Serious accidents,	3
Days idle on account of dull business and repairs,	278
Companies working 60 hours per week,	18
Companies working 59 hours per week,	2
Companies working 57 hours per week,	5
Companies working 58 hours per week,	9
Companies working 56 hours per week,	4
Companies working 55 hours per week,	11
Average working hours per week,	58
Number of employees and their nationality,	6,739
Americans,	3,954
English,	38
Germans,	172
Irish,	306
Scotch,	29
Hungarians,	153
Italians,	95
Polish,	911
Slavonians,	198
Greeks,	89
Welsh,	155
Austrians,	10
Nationality not given,	629

STRIKES.

Number 361 reports:

Days lost by strike, 68.

Employees affected by strike, 168.

Strike partially successful.

Arbitrated.

Strike began July 26, 1907.

Strike ended October 14, 1907.

Questions involved in dispute: Reduction in hours and advance in wages.

Number 360a reports:

Days lost by strike, 60.

Employees affected by strike, 345.

Strike partially successful.

Arbitrated.

Strike began July 30, 1907.

Strike ended October 17, 1907.

Questions involved in dispute: On account of agitation for an eight hour day, subsequently arbitrated to 55 hours per week.

Number 360b reports:

Days lost by strike, 69.

Employes affected by strike, 355.

Strike partially successful.

Arbitrated.

Strike began July 25, 1907.

Strike ended October 14, 1907.

Question involved in dispute: On account of agitation for an eight hour day, subsequently arbitrated to 55 hours per week.

Number 360c reports:

Days lost by strike, 62.

Employes affected by strike, 237.

Strike partially successful.

Arbitrated.

Strike began August 2, 1907.

Strike ended October 14, 1907.

Question involved in dispute: On account of agitation for an eight hour day, subsequently arbitrated to 55 hours per week.

Number 366a reports:

Days lost by strike, 78.

Employes affected by strike, 295.

Strike unsuccessful.

Strike arbitrated.

Strike began in June, 1907.

Strike ended in October, 1907.

Questions involved in dispute: Hours and wages.

Number 366b reports:

Days lost by strike, 78.

Employes affected by strike, 200.

Strike unsuccessful.

Strike arbitrated.

Strike began in June, 1907.

Strike ended in October, 1907.

Questions involved in dispute: Hours and wages.

Number 367 reports:

Days lost by strike, 50.

Employes affected by strike, 69.

Strike successful.

Strike arbitrated.

Strike began August 1, 1907.

Strike ended September 20, 1907.

Questions involved in dispute: Shorter hours, increase in wages, check-off system and closed shop.

Number 368 reports:

Days lost by strike, 78.

Employees affected by strike, 135.

Strike unsuccessful.

Strike arbitrated.

Strike began June, 1907.

Strike ended October, 1907.

Questions involved in dispute: Hours and wages.

Number 370 reports:

Days lost by strike, 63.

Employees affected by strike, 39.

Strike successful.

Strike arbitrated.

Strike began August 1, 1907.

Strike ended October 14, 1907.

Questions involved in dispute: Shorter hours and increase of wages.

Number 371 reports:

Days lost by strike, 66.

Employees affected by strike, 131.

Strike partially successful.

Strike arbitrated.

Strike began August 12, 1907.

Strike ended October 28, 1907.

Question in dispute: Working hours.

Number 377 reports:

Days lost by strike, 9.

Employees affected by strike, 152.

Strike unsuccessful.

Strike began August 26, 1907.

Strike ended September 4, 1907.

Question involved in dispute: Shorter hours.

Number 383 reports:

Days lost by strike, 23.

Employees affected by strike, 198.

Strike partly successful.

Strike arbitrated.

Strike began July 22, 1907.

Strike ended August 18, 1907.

Questions involved in dispute: Shorter hours and more wages.

Number 383b reports:

Days lost by strike, 20.

Employees affected by strike, 51.

Strike partly successful.

Strike arbitrated.

Strike began July 30, 1907.

Strike ended August 23, 1907.

Questions involved in dispute: Shorter hours and more wages.

Number 383c reports:

Days lost by strike, 45.

Employees affected by strike, 112.

Strike partly successful.

Strike arbitrated.

Strike began July 8, 1907.

Strike ended August 29, 1907.

Questions involved in dispute: Shorter hours and higher wages.

Number 383d reports:

Days lost by strike, 42.

Employees affected by strike, 184.

Strike partly successful.

Strike arbitrated.

Strike began July 1, 1907.

Strike ended August 19, 1907.

Questions involved in dispute: Shorter hours and higher wages.

Number 384 reports:

Days lost by strike, 65.

Employees affected by strike, 185.

Strike unsuccessful.

Strike arbitrated.

Strike began July 27, 1907.

Strike ended October 14, 1907.

Questions involved in dispute: Hours and wages.

Number 385 reports:

Days lost by strike, 66.

Employees affected by strike, 176.

Strike arbitrated.

Strike began July 26, 1907.

Strike ended October 10, 1907.

Question involved in dispute: Copy of demands and awards attached.

Number 387 reports:

Days lost by strike, 72.

Employees affected by strike, 94.

Strike successful.

Strike arbitrated.

Strike began July 24, 1907.

Strike ended October 14, 1907.

Questions involved in dispute: Striking employes demanded an 8 hour day; the arbitrator granted them 55 hour week and fixed a minimum wage scale.

Number 391 reports:

Days lost by strike, 42.

Employes affected by strike, 40.

Strike successful.

Strike arbitrated.

Strike began July 11, 1907.

Strike ended August 22, 1907.

Question involved in dispute: Shorter hours.

Number 392 reports:

Days lost by strike, 12.

Employes affected by strike, 64.

Strike successful.

Strike arbitrated.

Question involved in dispute: Shorter hours.

Number 396 reports:

Days lost by strike, 1.

Employes affected by strike, 225.

Strike successful.

Strike began August 5, 1907.

Question involved in dispute; Help wanted hours reduced from 60 to 48 hours per week; we granted them 57½ and later 55 hours.

Number 398 reports:

Days lost by strike, 66.

Employes affected by strike, 78.

Strike not successful.

Strike began July 27, 1907.

Strike ended October 14, 1907.

Question involved in dispute; Fifty hours per week.

Number 400 reports:

Days lost by strike, 68.

Employes affected by strike, 115.

Strike partly successful.

Strike arbitrated.

Strike began July 26, 1907.

Strike ended October 14, 1907.

Questions involved in dispute: Number of hours per week; membership in labor union; check-off.

SOAP.

	1907.	1906.
Number of establishments considered,	14	15
Capital invested (realty, machinery, business, etc.),	\$3,068,979	\$2,746,720
Market or realized value of production,	5,844,144	5,077,007
Average number of days in operation,	301	305
Average number of working people employed,	873	810
Males,	628	568
Females,	201	222
Minors,	44	20
<hr/>		
Aggregate amount of wages paid,	\$421,992	\$375,235
Males,	\$350,147	\$301,064
Females,	59,681	70,167
Minors,	12,164	4,004
<hr/>		
Average yearly earnings,	\$483 38	\$463 25
Males,	\$557 55	\$530 04
Females,	296 92	316 06
Minors,	276 45	200 20
<hr/>		
Average daily wage,	\$1 61	\$1 52
Males,	\$1 85	\$1 73
Females,	99	1 03
Minors,	91	66
<hr/>		
Average value produced by each employe,	\$6,694 32	\$6,267 91
Total production in given quantities:		
Soap, pounds,	25,999,778	25,142,158
Soap in boxes,	287,747	1,083,358
Soap in barrels,		327
Soap in gallons,		249,600

LABOR SUPPLEMENT—SOAP.

Number of companies reporting,	14
Number of employes who own their homes,	31
Highest rent per annum,	\$200
Lowest rent per annum,	\$96
Average rent paid per annum,	\$142
Serious accidents,	1
Companies working 60 hours per week,	4
Companies working 59 hours per week,	3
Companies working 57½ hours per week,	1
Companies working 58 hours per week,	1
Companies working 55 hours per week,	2
Companies working 50 hours per week,	1
Companies working 49½ hours per week,	1
Companies working 48 hours per week,	1
Average working hours per week,	56
Number of employes and their nationality,	871
Americans,	397
Germans,	4
Irish,	1
Hungarians,	2
Russians,	3
Danes,	1
Nationality not given,	463

STEAM SHIPS AND LAUNCHES.

	1907.	1906.
Number of establishments considered,	4	4
Capital invested (realty, machinery and working capital,	\$16,952,183	\$18,276,280
Market or realized value of production,	10,376,279	10,355,080
Average number of days in operation,	299	305
Average number of wage earners employed,	6,396	7,142
Males,	6,214	6,943
Female,	6	6
Minors,	176	193
<hr/>		
Aggregate amount of wages paid,	\$3,879,319	\$4,342,637
Males,	\$3,854,967	\$4,315,464
Females,	2,087	1,963
Minors,	22,315	25,210
<hr/>		
Average yearly earnings,	\$606 52	\$608 04
Males,	\$620 37	\$621 06
Females,	339 50	327 17
Minors,	126 78	130 62
<hr/>		
Average daily wage,	\$2 03	\$1 99
Males,	\$2 07	\$2 04
Females,	1 13	1 07
Minors,	42	43
<hr/>		
Average value produced by each employe,	\$1,622 31	\$1,449 83
Total production as given:		
Tug boats,	6	
Engines,	2	
Steam ships,	1	
Tons,	12,165	

LABOR SUPPLEMENT—STEAM SHIPS AND LAUNCHES.

Number of companies reporting,	4
Number of employes who own their homes,	57
Highest rent per annum,	\$120
Lowest rent per annum,	\$120
Average rent paid per annum,	\$120
Days idle,	74
Serious accidents,	3
Companies working 56½ hours per week,	1
Companies working 54 hours per week,	1
Companies working 55 hours per week,	1
Companies working 53 hours per week,	1
Average working hours per week,	54
Number of employes and their nationality,	5,952
Americans,	26
Germans,	4
Hungarians,	3
Italians,	38
Polish,	2
Russians,	1
Swedes,	2
French,	2
Danes,	2
Hollanders,	1
Nationality not given,	5,871

TANNING EXTRACTS.

	1907.	1906.
Number of establishments considered,	5	3
Capital invested (realty, machinery, business, etc.),	\$239,206	\$115,051
Market value of production,	717,931	532,851
Average number of days in operation,	243	243
Average number of wage earners employed,	76	62
Males,	76	62
<hr/>		
Aggregate amount of wages paid,	\$30,692	\$24,501
Males,	\$30,692	\$24,501
Average yearly wages,	\$403 84	\$395 18
Males,	\$403 84	\$395 18
<hr/>		
Average daily wage,	\$1 67	\$1 62
Males,	\$1 67	\$1 62
Average value produced by each employe,	\$9,446 46	\$8,594 37
Total production as given in pounds,	31,515,592	23,607,451

LABOR SUPPLEMENT—TANNING EXTRACTS.

Number of companies reporting,	5
Number of employes who own their homes,	15
Days idle on account of lack of raw material,	41
Companies working 60 hours per week,	5
Average working hours per week,	60
Number of employes and their nationality,	72
Americans,	33
English,	1
Germans,	9
Irish,	1
Polish,	8
Italians,	7
Slavonians,	2
Danish,	1
Swedes,	7
Macedonians,	3

TELEPHONES, TYPEWRITERS AND ELECTRICAL SPECIAL- TIES.

	1907.	1906.
Number of establishments considered,	8	8
Capital invested in (realty, machinery and work- ing capital),	\$12,858,952	\$16,441,415
Market value of production,	7,102,793	8,407,380
Average number of days in operation,	307	314
Average number of people employed,	1,837	2,259
Males,	1,618	1,639
Females,	205	589
Minors,	14	31
<hr/>		
Aggregate amount of wages paid,	\$871,978	\$1,076,764
Males,	\$780,280	\$854,286
Females,	88,275	213,375
Minors,	3,423	9,103
<hr/>		
Average yearly earnings,	\$474 67	\$476 65
Males,	\$482 25	\$521 22
Females,	430 61	362 27
Minors,	244 50	293 64
<hr/>		
Average daily wage,	\$1 55	\$1 52
Males,	\$1 57	\$1 66
Females,	1 40	1 15
Minors,	80	94
<hr/>		
Average produced by each employe,	\$3,920 95	\$3,721 73
Total production given in quantity:		
Wire in feet,	21,195,720	28,412,350
Spark generators,	1,050	6,833
Typewriters,		5,116
Meters,	3,100	
Insulated wire, in tons,	7,207	16,720

LABOR SUPPLEMENT—TELEPHONES, TYPEWRITERS AND ELECTRICAL SPECIALTIES.

Number of companies reporting,	8
Number employes who own their homes,	59
Highest rent per annum,	\$240
Lowest rent per annum,	\$96
Average rent paid per annum,	\$173
Days idle on account of repairs,	6
Companies working 60 hours per week,	3
Companies working 57 hours per week,	1
Companies working 56 hours per week,	1
Companies working 55 hours per week,	1
Companies working 54 hours per week,	1
Companies working 53 hours per week,	1
Average working hours per week,	56
Number of employes and their nationality,	5,955
Americans,	4,025
English,	10
Germans,	861
Irish,	90
Hungarians,	300
Italians,	2
Polish,	5
Austrians,	25
Russians,	11
Hebrews,	3
Arabians,	10
Welsh,	63
Slavonians,	7
Croatians,	4
Roumanians,	33
Nationality not given,	506

TIN CANS AND GALVANIZED WARE.

	1907.	1906.
Number of establishments considered,	8	8
Capital invested in plants and working capital,	\$1,297,900	\$908,775
Market value of production,	1,346,454	1,455,770
Average number of days in operation,	301	305
Average number of wage earners employed,	838	973
Males,	615	709
Females,	183	239
Minors,	40	25
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Aggregate amount of wages paid,	\$352,806	\$392,855
Males,	\$293,400	\$320,586
Females,	51,027	66,269
Minors,	8,379	5,980
<hr/>		
Average yearly earnings,	\$421 01	\$403 75
Males,	\$477 07	\$452 17
Females,	278 82	277 36
Minors,	209 48	239 20
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Average daily wage,	\$1 40	\$1 32
Males,	\$1 59	\$1 48
Females,	93	91
Minors,	70	78
Average value produced by each employe,	\$1,606 74	\$1,496 16
Total production as given:		
Cans in dozens,	86,336	

LABOR SUPPLEMENT—TIN CANS AND GALVANIZED WARE.

Number of companies reporting,	8
Number of employes who own their homes,	5
Highest rent per annum,	\$216
Lowest rent per annum,	\$168
Average rent paid per annum,	\$184
Days idle on account of lack of orders,	6
Companies working 60 hours per week,	2
Companies working 59 hours per week,	1
Companies working 57½ hours per week,	1
Companies working 55 hours per week,	1
Companies working 54 hours per week,	1
Companies working 52 hours per week,	1
Companies working 48 hours per week,	1
Average working hours per week,	56
Number of employes and their nationality,	846
Americans,	180
Germans,	35
Irish,	15
Italians,	20
Polish,	120
Russians,	45
Nationality not given,	431

TRUNKS, SUIT CASES AND TRAVELING BAGS.

	1907.	1906.
Number of companies reporting,	7	9
Capital invested (realty, machinery and working capital),	\$645,131	\$599,800
Market value of production,	1,034,356	1,044,014
Average number of days in operation,	299	307
Average number of wage earners employed,	372	410
Males,	338	366
Females,	32	39
Minors,	2	5
<hr/>		
Aggregate amount of wages paid,	\$198,582	\$205,758
Males,	\$186,154	\$191,909
Females,	12,028	12,627
Minors,	400	1,222
<hr/>		
Average yearly earnings,	\$533 82	\$501 85
Males,	\$550 75	\$524 34
Females,	372 72	323 77
Minors,	200 00	244 40
<hr/>		
Average daily wage,	\$1.79	\$1 63
Males,	\$1 84	\$1 71
Females,	1 23	1 05
Minors,	67	80
Average value produced by each employe,	\$2,780 53	\$2,546 38
Total production as reported:		
Trunks,	268,400	73,127
Suit cases,	210,000	243,632
Traveling bags,	20,800	19,516
Telescopes,	38,000 .....	.....

LABOR SUPPLEMENT—TRUNKS, SUIT CASES AND TRAVEL- ING BAGS.

Number of companies reporting,	7
Number of employees who own their homes,	14
Highest rent per annum,	\$275
Lowest rent per annum,	\$144
Average rent paid per annum,	\$196
Days idle on account of repairs,	6
Companies working 60 hours per week,	2
Companies working 56 hours per week,	1
Companies working 55 hours per week,	3
Companies working 54 hours per week,	1
Average working hours per week,	56
Number of employees and their nationality,	372
Americans,	250
English,	1
Germans,	54
Italians,	10
Russians,	48
Hebrews,	9

UMBRELLAS AND PARASOLS.

	1907.	1906.
Number of establishments considered,	10	10
Capital invested (realty, machinery and working capital),	\$2,1668,898	\$2,372,585
Market value of production,	4,942,725	4,521,229
Average number of days in operation,	302	306
Average number of wage earners employed, ..	1,590	1,772
Males,	452	463
Females,	1,028	1,214
Minors,	110	95
<hr/>		
Aggregate amount of wages paid,	\$550,591	\$500,663
Males,	\$218,344	\$184,953
Females,	313,181	299,722
Minors,	19,066	15,988
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Average yearly earnings,	\$346 28	\$282 54
Males,	\$483 06	\$399 46
Females,	304 65	246 89
Minors,	173 33	168 30
<hr/>		
Average daily wage,	\$1 15	\$0 92
Males,	\$1 60	\$1 30
Females,	1 01	81
Minors,	57	55
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Average value produced by each employe,	\$3,108 64	\$2,541 48
Total production as given,	4,781,400	4,363,319
Average value of each umbrella and parasol,	\$1 03	\$1 04

LABOR AND SUPPLEMENT—UMBRELLAS AND PARASOLS.

Number of companies reporting,	10
Number of employes who own their homes,	3
Highest rent per annum,	\$175
Lowest rent per annum,	\$108
Average rent paid per annum,	\$150
Days lost on account of fire and repairs,	44
Companies working 60 hours per week,	6
Companies working 58 hours per week,	1
Companies working 56 hours per week,	1
Companies working 50 hours per week,	1
Companies working 40 hours per week,	1
Average working hours per week,	56
Number of employes and their nationality,	1,590
Americans,	785
Nationality not given,	805

WIRE AND WIRE GOODS.

	1907.	1906.
Number of establishments considered,	16	16
Capital invested (realty, machinery and working capital),	\$2,033,847	\$1,877,316
Market value of production,	2,857,167	2,482,622
Average number of days in operation,	294	290
Average number of wage earners employed,	803	696
Males,	755	658
Females,	34	27
Minors,	14	11
<hr/>		
Aggregate amount of wages paid,	\$459,950	\$370,038
Males,	\$443,038	\$359,725
Females,	12,422	7,183
Minors,	4,490	3,130
<hr/>		
Average yearly earnings,	\$572 79	\$531 66
Males,	\$586 81	\$546 69
Females,	365 35	266 04
Minors,	320 71	284 55
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Average daily wage,	\$1 95	\$1 83
Males,	\$1 99	\$1 85
Females,	1 24	90
Minors,	1 09	96
<hr/>		
Average value produced by each employe,	\$3,558 11	\$3,566 99
Total production as given:		
Wire in tons,	12,943	19,611
Wires in numbers,	200,000	

LABOR SUPPLEMENT—WIRE AND WIRE GOODS.

Number of companies reporting,	16
Number of employes who own their homes,	42
Highest rent per annum,	\$192
Lowest rent per annum,	\$96
Average rent paid per annum,	\$104
Serious accidents,	1
Fatal accidents,	1
Days idle on account of dull business and over production,	211
Companies working 60 hours per week,	2
Companies working 59 hours per week,	1
Companies working 58 hours per week,	1
Companies working 55 hours per week,	9
Companies working 54 hours per week,	3
Average working hours per week,	56
Number of employes and their nationality,	747
Americans,	338
English,	43
Germans,	32
Irish,	34
Italians,	15
Polish,	9
Swedes,	3
Canadians,	1
Nova Scotians,	1
Nationality not given,	271

WOOLEN AND WORSTED GOODS, BLANKETS, FLANNELS, ETC.

	1907.	1906.
Number of establishments considered,	26	27
Capital invested (realty, machinery and working capital),	\$3,604,491	\$3,446,195
Market value of production,	8,022,881	8,320,096
Average number of days in operation,	295	301
Average number of wage earners employed,	3,274	3,294
Males,	1,532	1,498
Females,	1,485	1,513
Minors,	257	269
<hr/>		
Aggregate amount of wages paid,	\$1,195,710	\$1,193,725
Males,	\$696,232	\$682,410
Females,	444,577	458,145
Minors,	54,901	53,170
<hr/>		
Average yearly earnings,	\$365 24	\$363 94
Males,	\$454 46	\$455 55
Females,	298 78	302 81
Minors,	213 62	197 66
<hr/>		
Average daily wage,	\$1 24	\$1 21
Males,	\$1 54	\$1 51
Females,	1 01	1 00
Minors,	72	66
<hr/>		
Average value produced by each employe,	\$2,454 08	\$2,536 60
Total production as given:		
Woolen and worsted goods, yards,	6,658,842	8,087,313
Blankets, pounds,	523,435	
Blankets, pairs,	41,807	36,810
Yarn in pounds,	6,365,048	6,041,166
Flannels in yards,	567,069	
Hosiery and skirts, dozens,	3,750	6,000

**LABOR SUPPLEMENT—WOOLEN AND WORSTED GOODS,
BLANKETS, FLANNELS, ETC.**

Number of companies reporting,	26
Number of employes who own their homes,	128
Highest rent per annum,	\$192
Lowest rent per annum,	\$60
Average rent paid per annum,	\$108
Fatal accidents, reported,	1
Days idle on account of lack of orders and repairs, ...	172
Companies working 60 hours per week,	21
Companies working 59 hours per week,	2
Companies working 58 hours per week,	2
Companies working 55 hours per week,	1
Average working hours per week,	59
Number of employes and their nationality,	3,239
Americans,	1,593
English,	84
Germans,	6
Irish,	180
Italians,	13
Polish,	199
Russians,	135
Swedes,	1
Spanish,	4
Slavonians,	166
Austrians,	1
Nationality not given,	857

RECAPITULATION OF ALL THE INDUSTRIES REPORTING 1907.

Character of Industries.	Number of establishments considered.	Capital invested in plants and working capital.	Market value of production.	Average number of days in operation.	Number of wage earners.	Aggregate wages paid to wage earners.	Average value of production for each employee.	Average yearly earnings.	Average daily wage.
Alcohol, acetate of lime, charcoal, etc.,	21	\$2,138,271	\$1,881,831	280	715	\$372,955	\$2,631 31	\$321 61	\$1 86
Agricultural implements, mill and mining machinery, ..	16	5,465,406	7,336,407	291	3,146	1,658,382	2,830 50	526 80	1 81
Automobiles,	6	2,324,134	1,961,130	285	833	530,091	2,854 80	636 36	2 16
Barrels, kegs, etc.,	5	628,500	431,606	277	225	96,745	1,917 80	429 98	1 55
Bridges, iron and steel and structural work,	13	4,224,245	35,944,968	307	8,343	5,353,294	4,305 81	641 27	2 09
Brooms and whisks,	8	152,089	369,999	280	184	70,330	2,010 87	352 23	1 32
Carpets and rugs, in the State not including Philadelphia,	12	1,669,887	1,979,147	275	1,144	411,919	1,738 77	360 94	1 31
Cars, car wheels and castings,	13	41,250,374	100,404,886	305	22,213	14,392,777	4,520 09	647 95	2 12
Carriages, wagons, axles and springs,	23	2,213,976	3,684,545	293	2,118	1,119,493	1,739 63	528 56	1 80
Cement production in Pennsylvania,	23	42,452,427	20,109,453	330	11,052	5,349,128	1,819 53	483 99	1 47
Cement building blocks and crushed stone,	13	803,789	698,958	287	627	306,526	1,114 77	457 28	1 69
Chains and forgings,	12	2,355,297	2,526,414	285	1,395	650,190	1,811 77	459 63	1 65
Cordage rope and twine,	10	5,278,212	10,035,099	280	2,899	898,890	3,468 45	319 48	1 10
Corks,	8	2,848,000	3,897,432	301	1,859	817,603	2,096 55	439 81	1 46
Cotton goods in the State not including Philadelphia, ..	21	4,890,514	8,170,807	301	3,695	1,463,707	2,214 02	396 12	1 32
Edge tools, gas stoves, iron and steel specialties,	22	5,836,962	3,863,666	291	1,866	1,173,846	2,070 56	639 07	2 16
Emery and water wheels,	6	1,107,312	1,170,779	301	636	275,039	1,840 85	432 45	1 44

Electric apparatus and electric lamps,	5	33,415,311	28,514,540	300	11,872	7,204,276	2,486 05	608 82	2 02
Gas, gasoline and steam engines and oil well supplies, ..	18	5,606,186	3,940,174	308	1,713	1,087,622	2,241 78	634 92	2 06
Glass, plate,	6	11,953,483	6,322,229	291	4,311	2,591,943	1,466 53	601 22	2 06
Glass, window,	13	13,550,244	6,744,091	233	5,165	3,320,415	1,305 76	842 86	2 75
Glue, Curled hair, etc.,	6	2,820,734	3,352,155	293	712	331,387	4,708 08	466 88	1 56
Hosiery in the State not including Philadelphia, ..	88	6,356,346	9,337,240	298	10,485	2,968,933	896 25	283 16	96
Knit goods, underwear, etc.,	33	2,637,932	6,021,747	291	3,938	1,108,641	1,706 89	281 62	97
Lace goods and draperies,	10	3,426,843	4,321,087	298	2,457	1,116,925	1,758 68	495 28	1 66
Leather miscellaneous,	9	2,155,000	4,725,636	302	770	360,587	6,137 19	468 29	1 55
Leather belting,	13	689,082	942,438	306	122	86,389	7,724 90	708 11	2 31
Shoe leather, enameled and glazed kid,	15	12,646,562	20,683,602	291	4,406	2,188,808	4,694 41	496 78	1 71
Sole and harness leather,	55	12,054,897	39,770,975	304	4,549	2,263,806	8,742 79	497 65	1 64
Auxiliary reports to leather,	2	83,467	.....	313	98	66,951	.....	683 17	2 18
Locks, safes, vaults and hardware specialties,	11	2,486,946	3,075,905	297	2,502	1,046,530	1,229 38	418 28	1 41
Locomotives, stationary engines and metallic packing, ..	8	22,760,535	47,106,829	308	22,021	15,046,271	2,139 18	683 36	2 22
Machinery and castings,	37	15,021,293	18,463,620	289	6,686	3,622,621	2,761 53	571 73	1 98
Mattresses, spring beds, bedding, etc.,	13	488,166	775,840	301	299	136,877	2,694 78	457 78	1 52
Metallic beds, bedding, couches, etc.,	6	692,728	1,568,327	299	648	349,944	2,420 25	540 03	1 80
Men's hats and caps,	32	8,420,256	13,594,903	303	7,350	3,789,200	1,849 65	515 54	1 70
Men's, Women's, Misses and children's shoes,	60	10,351,655	15,195,010	269	7,887	3,404,122	1,921 32	431 61	1 61
Miners' caps, uniform caps and military goods,	9	75,467	177,914	291	92	39,193	1,933 84	426 01	1 46
Oil cloth,	2	1,800,000	4,992,232	305	1,020	587,534	4,894 34	576 01	1 89
Oils, paints and coal tar products,	12	1,431,575	2,235,829	307	223	135,320	9,763 44	590 91	1 92
Refined and Lubricating oils and grease,	19	23,727,706	42,001,014	304	4,261	2,609,712	9,857 07	612 46	2 01
Powder, high explosives and dynamite,	16	4,796,047	4,965,079	292	751	499,551	6,611 29	665 17	2 28
Shovels, spades, scoops and railway supplies,	11	2,162,401	2,694,982	286	1,108	659,415	2,432 30	595 14	2 08
Silk, dress goods and throwing,	73	18,037,744	33,570,598	294	16,606	5,424,102	2,097 38	338 88	1 15
Silk ribbons, dress goods and thrown silk,	26	3,775,185	9,755,522	296	5,409	1,989,401	1,908 57	367 79	1 24

RECAPITULATION OF ALL THE INDUSTRIES REPORTING 1907—Continued.

Character of Industries.	Number of establishments considered.	Capital invested in plants and working capital.	Market value of production.	Average number of days in operation.	Number of wage earners.	Aggregate wages paid to wage earners.	Average value of production for each employee.	Average yearly earnings.	Average daily wage.
Thrown silk,	51	\$9,065,811	\$9,454,710	255	6,920	\$1,364,467	\$1,366 29	\$197 13	\$0 77
Soap,	14	3,063,979	5,844,144	301	873	421,992	6,694 32	483 33	1 61
Steam ships and launches,	4	16,952,183	10,376,279	239	6,396	3,879,319	1,622 31	606 52	2 03
Tanning extracts,	5	239,206	717,931	243	76	30,692	9,446 46	403 84	1 67
Telephone, type writers and electrical specialties,	8	12,858,952	7,102,783	307	1,837	871,978	3,320 95	474 67	1 55
Tin cans and galvanized ware,	8	1,297,900	1,346,454	301	838	352,806	1,606 74	421 01	1 40
Trunks, suit cases and traveling bags,	7	645,131	1,034,356	299	372	198,582	2,780 53	533 82	1 79
Umbrellas and parasols,	10	2,166,898	4,942,725	302	1,590	550,591	3,108 64	346 23	1 15
Wire and wire goods,	16	2,033,847	2,857,167	294	803	459,950	3,553 11	572 79	1 95
Woolen and worsted goods, blankets, flannels, etc., ..	26	3,604,491	8,022,881	295	3,274	1,195,710	2,454 08	365 24	1 24
Anthracte coal,	118	.....	156,154,760	243	164,861	94,638,339	947 19	574 44	2 36
Anthracte washery coal,	53	.....	3,201,495	.....	1,852	825,319	1,731 37	445 63	.....
Anthracte dredged from river,	24	56,918	56,929	113	141	31,375	403 75	222 53	1 97
Bituminous coal,	1,073	.....	174,035,853	263	175,271	106,760,573	993 01	603 72	2 25
Iron and steel rolled into finished form,	108	346,361,420	504,167,225	298	137,712	91,413,384	3,661 03	663 80	2 23
Iron and steel—Steel ingots and castings,	33	11,480,124	17,237,294	298	9,316	6,079,036	1,850 29	652 54	2 19
Pig iron,	64	143,859,428	206,443,155	326	18,960	12,675,001	10,888 35	668 51	2 06
Tin plate—Black plate works,	16	8,198,605	23,980,589	197	7,365	5,319,594	2,127 73	722 29	3 67

Tin plate dipping works,	4	1,387,080	1,520,409	276	228	122,876	6,388 27	530 49	1 89
Textile Industries in Philadelphia.									
Cotton goods,	91	8,577,790	13,377,174	295	6,887	3,083,370	1,942 38	441 31	1 49
Cotton and woolen waste and shoddy goods,	21	1,056,773	2,063,127	290	353	161,012	5,846 72	449 71	1 55
Cotton and wool yarns,	69	13,532,396	22,653,151	292	8,017	2,314,454	2,826 64	363 53	1 24
Carpets and rugs,	88	16,906,397	24,790,343	284	10,659	4,946,631	2,319 23	462 78	1 63
Dyers, bleachers and finishers,	60	3,720,049	4,644,982	280	2,806	1,442,625	1,655 38	514 12	1 83
Dyers bleachers and finishers (commission),	23	740,979	.....	285	465	237,298	.....	510 32	1 79
Hosiery,	87	7,007,143	13,634,682	294	10,836	4,269,848	1,259 20	394 33	1 34
Knit goods, underwear, etc.,	53	3,580,822	6,749,891	286	4,241	1,594,878	1,591 58	376 06	1 31
Lace goods, curtains, edgings, etc.,	6	1,453,347	1,999,474	249	942	466,965	2,122 58	495 74	1 99
Miscellaneous products of textile industry,	7	322,605	359,590	285	203	77,072	1,771 38	379 66	1 33
Silk goods,	25	2,968,827	6,475,968	301	2,646	1,067,628	2,447 46	408 49	1 34
Upholstery and drapery goods,	38	3,685,525	6,748,890	294	3,171	1,546,224	2,128 32	487 61	1 66
Woolen and worsted goods,	71	12,064,896	26,975,834	286	11,030	5,014,570	2,445 68	454 63	1 59
Totals,	3,133	\$992,560,486	\$1,807,276,403	278	790,809	\$452,151,165	\$2,279 73	\$671 76	\$3 06

CLASSIFICATION OF MALES, FEMALES, MINORS AND WAGES PAID IN ALL INDUSTRIES CONSIDERED.

Industries.	Number of Wage Earners Employed.			Aggregate Amount of Wages			Average Yearly Earnings.			Average Daily Wage.		
	Males.	Females.	Minors.	Males.	Females.	Minors.	Males.	Females.	Minors.	Males.	Females.	Minors.
Alcohol, acetate of lime, charcoal, etc.,	715	.....	.....	\$372,955	.....	.....	\$521.21	.....	.....	\$1.86	.....	.....
Agricultural implements, mill and mining machinery, ...	3,133	2	13	1,654,903	\$625	\$2,854	528.55	\$312.50	\$219.53	1.81	\$1.07	\$0.75
Automobiles,	833	.....	.....	530,091	.....	.....	636.36	.....	.....	2.16	.....	.....
Barrels, kegs, etc.,	192	.....	33	87,505	.....	9,240	455.76	.....	280.00	1.64	.....	1.01
Bridges, iron and steel and structural work,	683	.....	18	5,347,683	.....	5,611	641.97	.....	311.72	2.09	.....	1.02
Brooms and whisks,	148	27	9	60,733	8,068	1,539	410.69	296.59	171.04	1.42	1.02	.59
Carpets and rugs manufactured in the State not including Philadelphia,	769	333	42	301,839	100,775	9,255	392.57	302.63	220.36	1.43	1.10	.80
Cars, car wheels and castings,	22,173	11	23	14,331,151	5,148	6,478	648.59	468.00	223.33	2.13	1.53	.70
Carriages, wagons, axles and springs,	1,990	57	31	1,086,570	13,829	19,594	548.77	233.84	241.90	1.87	.80	.32
Cement production,	11,010	3	29	5,337,631	1,293	10,199	484.80	432.66	261.51	1.47	1.31	.79
Cement building blocks and crushed stone,	627	.....	.....	306,526	.....	.....	487.28	.....	.....	1.69	.....	.....
Chains and forgings,	1,318	7	70	631,303	2,315	16,572	478.36	331.28	215.22	1.68	1.16	.75
Cordage, rope and twine,	1,255	1,374	270	523,813	331,360	43,717	417.38	248.44	151.91	1.44	.85	.56
Corks,	973	698	183	553,315	235,727	23,561	568.67	337.72	151.92	1.89	1.12	.50
Cotton goods in the State not included in Philadelphia, ...	1,537	1,852	306	776,698	619,195	67,814	505.33	334.34	221.61	1.68	1.11	.74
Edge tools, gas stoves, iron and steel specialties,	1,822	35	9	1,156,614	14,798	2,434	634.81	422.51	270.44	2.18	1.46	.33
Emery and water wheels	601	.....	35	263,389	.....	6,650	446.57	.....	190.00	1.48	.....	.63

Electric apparatus and electric lamps,	10,503	1,361	8	6,756,779	445,547	1,950	643 34	327 37	243 75	2 14	1 09	.81
Gas, gasoline and steam engines and oil well supplies,	1,708	.....	5	1,086,122	.....	1,500	635 90	.....	300 00	2 06	.....	.97
Glass, plate,	4,213	51	47	2,660,738	16,910	14,195	607 82	331 57	302 02	2 09	1 13	1 04
Glass, window,	5,068	.....	107	3,283,790	.....	31,625	652 25	.....	295 56	2 80	.....	1 27
Glue, curled hair, etc.,	630	52	30	310,295	14,718	6,974	526 61	313 15	224 97	1 73	1 08	.76
Hosiery in the State not including Philadelphia,	1,791	7,406	1,288	830,260	1,916,132	222,541	463 57	258 73	173 59	1 56	.87	.53
Knit goods, underwear, etc., in the State outside of Philadelphia,	723	2,830	395	356,759	687,014	64,568	493 44	244 76	168 52	1 69	.84	.53
Lace goods and draperies,	1,000	1,087	370	735,466	323,175	53,254	735 46	301 91	144 01	2 47	1 01	.89
Leather, miscellaneous, given in sides, pounds and feet,	722	13	30	351,637	4,800	4,200	493 35	266 66	140 00	1 62	.88	.46
Leather belting,	121	1	.....	86,989	400	.....	710 65	400 00	.....	2 32	1 31	.....
Shoe leather enameled and glazed kid,	3,826	255	325	2,031,965	80,965	75,858	531 10	317 47	233 41	1 82	1 09	.80
Sole and harness leather,	4,531	.....	18	2,260,006	.....	3,800	498 57	.....	211 11	1 64	.....	.69
Auxiliary reports to leather,	98	.....	.....	66,951	.....	.....	683 17	.....	.....	2 18	.....	.....
Locks, safes, vaults and hardware specialties,	2,239	144	119	983,984	42,290	20,256	439 37	293 68	170 22	1 48	.99	.57
Locomotives, stationary engines and metallic packing,	21,989	.....	32	15,042,127	.....	6,144	684 35	.....	192 00	2 22	.....	.62
Machinery and castings,	6,653	4	29	3,812,616	1,020	8,985	573 07	255 00	309 83	1 98	.88	1 07
Mattresses, spring beds, bedding, etc.,	198	96	5	109,020	26,473	784	553 62	275 76	156 80	1 84	.92	.52
Metallic beds, bedding, couches, etc.,	591	51	6	331,359	17,330	1,255	560 67	339 80	209 17	1 88	1 14	.70
Men's hats and caps,	5,172	1,846	333	3,056,048	658,712	74,440	590 88	337 03	223 48	1 95	1 18	.74
Men's, women's, misses and children's shoes,	4,648	2,712	527	2,414,477	878,082	111,613	519 47	323 96	211 79	1 93	1 20	.78
Miners' caps, uniform caps and military goods,	29	60	3	18,971	16,698	594	654 17	328 30	174 33	2 25	1 13	.60
Oil cloth,	1,009	5	6	584,469	1,665	1,400	579 25	333 00	233 33	1 90	1 09	.77
Oils, paints and coal tar products,	210	19	.....	128,771	6,549	.....	613 19	344 69	.....	2 00	1 12	.....
Refined and lubricating oils and grease,	4,162	6	93	2,590,876	1,868	16,968	622 51	311 33	132 45	2 05	1 02	.60
Powder, high explosives and dynamite,	715	33	3	488,816	10,109	628	653 47	306 33	208 66	2 23	1 05	.71
Shovels, spades, scoopes and railway supplies,	1,066	25	17	646,704	8,525	4,184	606 66	341 00	246 23	2 12	1 19	.86

CLASSIFICATION OF MALES, FEMALES, MINORS AND WAGES PAID IN ALL INDUSTRIES CONSIDERED—Continued.

Industries.	Number of Wage Earn- ers Employed.			Aggregate Amount of Wages			Average Yearly Earn- ings.			Average Daily Wage.		
	Males.	Females.	Minors.	Males.	Females.	Minors.	Males.	Females.	Minors.	Males.	Females.	Minors.
Silk dress goods and throwing,	3,671	1,089	2,246	\$2,084,784	\$2,885,205	\$454,113	\$567 91	\$285 97	\$202 18	\$1 93	\$0 97	\$0 68
Silk ribbons, dress goods and thrown silk,	2,140	2,742	527	1,083,689	898,147	97,565	506 39	299 10	185 13	1 71	.99	.63
Thrown silk,	1,216	4,292	1,412	411,984	763,857	108,626	338 80	177 97	133 60	1 33	.70	.52
Soap,	628	201	44	350,147	59,681	12,164	557 55	296 92	276 45	1 85	.99	.91
Steam ships and launches,	6,214	6	176	3,854,967	2,037	22,315	620 37	339 50	128 78	2 07	1 13	.42
Tanning extracts,	76	.....	.....	30,692	.....	.....	403 84	.....	.....	1 67	.....	.....
Telephones, type writers and electrical specialties,	1,618	205	14	780,280	88,275	3,422	482 25	430 61	244 50	1 57	1 40	.80
Tin cans and galvanized ware,	615	183	40	293,400	51,027	8,379	477 07	278 82	209 48	1 59	.93	.70
Trunks, suit cases and traveling bags,	338	32	2	186,154	12,028	400	550 75	372 72	200 00	1 84	1 23	.67
Umbrellas and parasols,	452	1,028	110	218,344	313,181	19,066	483 06	304 65	173 33	1 60	1 01	.57
Wire and wire goods,	755	34	14	443,068	12,422	4,490	586 81	365 85	320 71	1 99	1 24	1 09
Woolen and worsted goods, blankets, flannels, etc.,	1,532	1,485	257	686,232	444,577	54,901	454 46	298 78	213 62	1 54	1 01	.72
Anthracite coal,	155,911	.....	8,950	92,246,004	.....	2,392,335	591 02	.....	267 30	2 43	.....	1 10
Anthracite washery coal,	1,852	.....	.....	825,319	.....	.....	446 63	.....	.....	.....	.....	.....
Anthracite dredged from river,	141	.....	.....	31,375	.....	.....	222 52	.....	.....	1 97	.....	.....
Bituminous coal,	174,215	.....	1,056	106,487,683	.....	272,895	605 50	.....	258 42	2 26	.....	.96
Iron and steel rolled into finished form,	135,998	398	1,316	90,926,567	127,084	359,733	608 59	319 31	273 35	2 25	1 07	.92
Iron and steel—Steel ingots and castings,	9,265	.....	51	6,069,093	.....	9,943	655 06	.....	194 96	2 20	.....	.65
Pig iron,	18,949	.....	11	12,671,854	.....	3,147	668 73	.....	236 09	2 06	.....	.88

Tin plate—Black plate works,	7,087	252	28	5,232,223	78,962	7,509	752 54	313 34	288 81	3 82	1 59	1 47
Tin plate—Dipping works,	200	38	.....	113,302	10,574	.....	566 51	278 26	.....	2 05	1 01	.....
Textile Industries in Philadelphia.												
Cotton goods,	2,408	4,148	331	1,475,053	1,491,906	72,412	612 56	359 67	218 77	2 08	1 22	.74
Cotton and woolen waste and shoddy goods,	302	50	6	148,638	11,007	1,367	492 13	220 14	227 08	1 70	.76	.78
Cotton and wool yarns,	2,994	4,140	943	1,468,919	1,226,815	223,720	498 95	296 33	238 30	2 10	1 02	.82
Carpets and rugs,	6,141	4,029	519	3,292,782	1,547,283	106,556	536 20	384 04	205 31	1 89	1 35	.72
Dyers, bleachers and finishers,	2,310	351	145	1,274,047	137,430	31,148	551 54	391 54	214 81	1 97	1 40	.77
Dyers, bleachers and finishers (commission),	410	39	16	216,621	13,988	6,691	523 34	358 62	418 18	1 85	1 26	1 47
Hosiery,	2,208	7,141	1,487	1,430,882	2,568,200	270,766	648 04	359 64	182 09	2 20	1 22	.63
Knit goods—Underwear, etc.,	853	2,984	299	554,566	974,787	65,825	575 56	323 32	220 15	2 02	1 18	.77
Lace goods—Curtains, edgings, etc.,	433	468	43	294,803	163,828	8,354	680 84	351 56	194 23	2 73	1 41	.78
Miscellaneous products of textile industry,	103	88	12	48,575	25,784	2,713	471 60	233 00	225 08	1 65	1 03	.79
Silk goods,	751	1,749	146	456,337	577,343	33,448	608 30	330 10	229 09	2 02	1 10	.76
Upholstery and drapery goods,	1,748	1,299	124	1,047,202	472,754	28,268	599 09	363 93	211 83	2 04	1 24	.72
Woolen and worsted goods,	5,268	4,762	1,000	2,334,714	1,891,255	188,601	557 08	337 16	183 60	1 94	1 39	.66
Total,	689,868	74,691	26,250	\$422,984,854	\$23,258,944	\$5,907,367	\$642 13	\$311 40	\$235 04	.....	.....	.....

ANALYTICAL DEDUCTIONS.*

If the average person were asked to state the chief industry of Pennsylvania his immediate response would probably be that it is coal mining, since the operations and the manufacturing interests connected with this great natural mineral wealth of the state reach such colossal proportions. It was in Pennsylvania that the first anthracite coal was discovered in 1790, and it is still this state that contains practically the output of the world. The first shipment of anthracite was made in a memorable year of our history, a date that pointed most significantly to the great future of the young Republic, the year 1812, when nine wagon loads were taken from Pottsville to Philadelphia.

Never in the State's history has so much anthracite and bituminous coal been mined as there was last year. The anthracite industry shows a production of 75,450,202 gross tons, having a commercial value at the mines of \$165,084,246, without considering the cost of transportation to tide water, which is a very profitable asset for the railroads or carrying companies. There were 166,743 wage earners employed in mining and preparing this coal for market, and \$95,463,658 was paid to them as earnings.

This hard coal deposit peculiarly belongs to Pennsylvania and is confined to ten counties that lie in the north-east and eastern parts of the state. But inexhaustible as it appears, there has been an interesting controversy going on in one of the coal producing counties over the assessed valuation of coal before being mined, some of the largest producing corporations appealing to the court for a reduction as fixed by the County Commissioners. Mining experts generally agreed that the coal in Lackawanna County would be exhausted in thirty or thirty-five years, at the rate of mining that was done in 1906, basing their figures on 13,000,000 tons a year, but in 1907 Lackawanna County produced 17,223,015 gross tons, so that if these experts are correct this precious fuel will all be taken out in twenty-five years.

In Schuylkill County the "Pine Knot Colliery," of the Philadelphia and Reading Coal and Iron Company, is the largest anthracite coal operation in the world. The colliery will turn out 100 cars a day, or a total of about 3,500 tons. The mining engineers have solved some difficult problems in connection with the work at the

*Read by C. B. Penman, Assistant Chief at Detroit Convention of Association of Bureau of Labor Statistics of America, August 5, 1908.

colliery, not the least of which was the draining of an underground lake to make some of the veins of coal more accessible, the mine having been flooded for years in an effort to extinguish a fire which has been burning for a decade.

The ruthless axe has been wielded in Penn's Forest until the lumber is nearly all gone through wasteful extravagance. No thought was taken that the dense woods would be exhausted until the end came. Now Pennsylvania are aroused and tree planting has again taken hold of its citizens. The State has created a Forestry Commission, and it has bought 800,000 acres of land on which trees are being planted, making them state reservations. By the time the timber is merchantable its anthracite will be exhausted in some of the counties where mining is now most active.

When the bank panic struck the country, in the fall of 1907, there was no let up in business in these anthracite counties. The companies paid wages when due, and did not have to resort to unusual methods to delay payment. The banks received and paid out money as if nothing had happened to disturb the financial world and hard times have left no impress on the hard coal region.

Bituminous, or soft coal, is another natural resource from which our state derives a handsome revenue. Underlying the soil of counties in the middle and the western parts of the state is found bituminous coal, and which furnished to the commercial world last year 149,390,965 net tons, having a value of \$174,035,853, giving employment to 175,271 wage earners who received \$105,760,578 in wages. The coal in the western counties is the most valuable, as it is nearly all coked. The active coke ovens last year numbered 45,912.

Overlying the coal in the middle counties there is a strata of clay which is mined in conjunction with the coal, from which is manufactured fire brick, paving brick, building brick, tiling, terra cotta sewer pipe, etc. In the total value of these products Pennsylvania leads, having a valuation of \$16,713,606. Also, in some of the bituminous counties is found Ganister which is mixed with clay for lining Bessemer converters.

Another natural resource that the state possesses is cement, and the development of this industry has grown very rapidly. In 1901 the Bureau found the manufactured product to be 7,955,669 barrels, but in 1907 the output amounted to 21,451,495 barrels, having a value of \$20,109,463, giving employment to 11,052 people who earned \$5,349,128. This calcined limestone deposit in large quantities is found in several counties of the eastern part of the state. There seems to be a great future for this product, as it is taking the place

of lumber and stone for bridges, buildings, tunnels, canal construction and other uses as a substitute for stone.

As to the manufactured products, iron and steel stand foremost and the growth has been wonderful. The Bureau has taken a yearly census of these industries since 1896, and the comparisons show how they have more than kept pace with the development of the country. To support this contention it will be necessary to take a few figures from the forthcoming report:

In 1896 the furnaces had an output of 4,026,350 gross tons of pig iron, with a value of \$45,172,039; and in 1907 the total gross tons were 11,311,985, at a market value of \$206,443,155, employing 18,950 people that earned \$12,675,001.

Coming to the iron and steel production, i. e. iron and steel rolled into finished form, in 1896 our report gives 3,837,379 gross tonnage, while in 1907 the rolling mills produced 12,953,047 gross tons; and the steel plants make a basic product of 12,089,614 gross tons; this went into the rolled product but must be shown to account for the labor and wages on it. The market value of the tonnage amounted to \$504,167,225, employing 137,712 people, who earned \$91,413,384. Over one-half of this product, or 52 per cent., was manufactured in one county, Allegheny.

The tin plate industry continues to be a most important one. Last year from data gathered, the report will show that the production was 633,902,496 pounds, having a value of \$22,980,589, employing 7,365 people, earning \$5,319,694. These tin plate mills are located in the western part of the state, and in conjunction with the steel mills.

The textile industry centres in Philadelphia and the Bureau finds therein 638 factories in operation, giving employment to 25,974 males, 31,246 females and 5,071 minors; total wages earned amounting to \$26,778,585, and realized value for product \$130,503,116.

The manufacture of silk is taking its place as one of the state's leading industries. Twenty years ago one could count the silk mills on his fingers, but now there are in operation 151 silk weaving and throwing mills scattered throughout the state, more particularly in the coal producing counties, where the families are large and female help can be secured. Last year these mills employed 7,045 males, 14,123 females and 4,185 minors who received \$8,777,970 for their labor. The value of the product amounted to \$52,780,830.

Blasting powder and dynamite is another industry to which attention is called. This industry is largely dependent on the mining of coal. 21 powder mills manufactured 84,569,274 pounds, having a value of \$4,965,077.

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